							F UTAH					FO	RM 3	
					DEPARTMENT DIVISION O						AMENI	DED REPOR	RT 🗾	
		АР	PLICATION F	OR PER	RMIT TO DRILL					1. WELL NAME and N		-22M GR		
2. TYPE OF WORK  DRILL NEW WELL  REENTER P&A WELL DEEPEN WELL								3. FIELD OR WILDCAT  NATURAL BUTTES						
4. TYPE OF WELL  Gas Well Coalbed Methane Well: NO									5. UNIT or COMMUNI	TIZATION NATURAL		ENT NAM	1E	
6. NAME C	F OPERATOR		KERR-MCGEE O	L & GAS C	ONSHORE, L.P.					7. OPERATOR PHONE	720 92	9-6515		
8. ADDRES	S OF OPERATO		P.O. Box 17377	9, Denve	er, CO, 80217					9. OPERATOR E-MAII		anadarko.	com	
	AL LEASE NUM , INDIAN, OR S	TATE)			MINERAL OWNERS	SHIP DIAN (	STATE (	) FEE(	_	12. SURFACE OWNER	SHIP DIAN 📵	STATE	<u></u> Б	EE (
13. NAME		TU 010950-A DWNER (if box 12 :	: 'fee')		EDETOTE IND		OIME	J/		14. SURFACE OWNER				
15. ADDRI	SS OF SURFA	CE OWNER (if box	12 = 'fee')							16. SURFACE OWNE	R E-MAIL	(if box 12	= 'fee')	
17. INDIAN	I ALLOTTEE OF	R TRIBE NAME			INTEND TO COMM		RODUCTION	FROM		19. SLANT				
(if box 12	= 'INDIAN') Ut	e Indian Tribe		- 1	LTIPLE FORMATIOI ÆS (Submit C		ling Application	on) NO (	<b>0</b>	VERTICAL DII	RECTION	AL D	IORIZON	TAL 🛑
20. LOCA	TION OF WELL			FOOTA	GES	QT	R-QTR	SECT	TION	TOWNSHIP	R	ANGE	ME	ERIDIAN
LOCATIO	N AT SURFACE		7	1 FSL 6	571 FWL	SI	wsw	22	2	9.0 S	2	1.0 E		S
Top of U	permost Prod	ucing Zone	7	1 FSL 6	671 FWL	SI	wsw	22	2	9.0 S	2	1.0 E		S
At Total	Depth		7	1 FSL 6	671 FWL	SI	WSW	22	2	9.0 S	2	1.0 E		S
21. COUN	TY	UINTAH		22.	DISTANCE TO NEA	REST LE		eet)		23. NUMBER OF ACRES IN DRILLING UNIT				
					DISTANCE TO NEA		leted)	POOL		26. PROPOSED DEPT		TVD: 500	0	
27. ELEVA	TION - GROUN	<b>D LEVEL</b> 4906		28.	BOND NUMBER	WYB00	00201			29. SOURCE OF DRIL WATER RIGHTS APPR	OVAL NU		PPLICAB	LE
		4900			Hole, Casing			rmation						
String	Hole Size	Casing Size	Length	Weigh			Max Mu			Cement		Sacks	Yield	Weight
SURF	11	8.625	0 - 2840	28.0	J-55 LT8	&C	0.2	2		Type V 180 1.15			15.8	
										Class G		270	1.15	15.8
PROD	7.875	4.5	0 - 5000	11.6	I-80 LT	&C	8.3	3	Prer	nium Lite High Stre	ngth	160	3.38	12.0
										50/50 Poz		630	1.31	14.3
					A	TTACH	MENTS							
	VER	IFY THE FOLLO	WING ARE AT	TACHE	D IN ACCORDAN	ICE WIT	TH THE UTA	AH OIL AN	ND GAS	CONSERVATION G	ENERA	L RULES		
<b>₩</b>	ELL PLAT OR MA	AP PREPARED BY L	ICENSED SURV	EYOR OR	R ENGINEER		<b>✓</b> COM	PLETE DRI	ILLING PI	LAN				
AFI	FIDAVIT OF STA	TUS OF SURFACE	OWNER AGREE	MENT (IF	FEE SURFACE)		FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER							
DIR	ECTIONAL SUF	RVEY PLAN (IF DIR	ECTIONALLY O	R HORIZO	ONTALLY DRILLED	)	торо	GRAPHICA	AL MAP					
NAME La	ura Abrams			TITLE	Regulatory Analyst	: 11			PHONE 7	720 929-6356				
SIGNATU	RE			DATE	05/01/2012				EMAIL La	aura.Abrams@anadark	o.com			
	BER ASSIGNED 047525840	0000		APPRO	OVAL				Bol	ogill				
									Permit Manager					

NBU 921-22M GR

Drilling Program

1 of 4

# Kerr-McGee Oil & Gas Onshore. L.P.

NBU 921-22M GR

Surface: 711 FSL / 671 FWL SWSW BHL: 711 FSL / 671 FWL SWSW

Section 22 T9S R21E

Unitah County, Utah Mineral Lease: UTU 010950-A

#### **ONSHORE ORDER NO. 1**

#### **DRILLING PROGRAM**

# Estimated Tops of Important Geologic Markers: Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1570	
Birds Nest	1860	Water
Mahogany	2386	Water
Wasatch	4909	Gas
TD	5000	

### 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please refer to the attached Drilling Program

#### 4. <u>Proposed Casing & Cementing Program:</u>

Please refer to the attached Drilling Program

#### 5. <u>Drilling Fluids Program:</u>

Please refer to the attached Drilling Program

# 6. <u>Evaluation Program</u>:

Please refer to the attached Drilling Program

NBU 921-22M GR Drilling Program
2 of 4

#### 7. **Abnormal Conditions:**

Maximum anticipated bottom hole pressure calculated at 2,100 psi (0.42 psi/ft = actual bottomhole gradient) approximately equals

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 1,003 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

#### 8. <u>Anticipated Starting Dates:</u>

Drilling is planned to commence immediately upon approval of this application.

#### 9. Variances:

Please refer to the attached Drilling Program. Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- · Blowout Prevention Equipment (BOPE) requirements;
- Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

#### **Background**

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may

NBU 921-22M GR

Drilling Program

3 of 4

be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

#### Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

#### **Variance for Mud Material Requirements**

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

#### Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMC well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and

on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

NBU 921-22M GR

Drilling Program

4 of 4

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

#### Variance for FIT Requirements

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

#### Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

#### 10. Other Information:

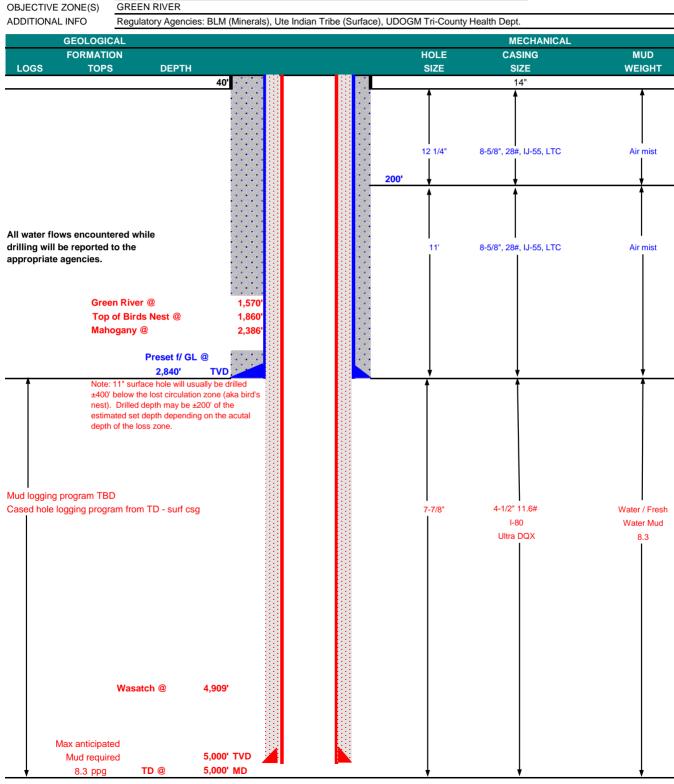
Please refer to the attached Drilling Program.

RECEIVED: April 25, 2012



# KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME KER	R-McGEE O	IL & GAS ONSH	ORE LP		DATE	December	21, 2011		
WELL NAME NB	U 921-22N	/I GR			TD	5,000'	TVD	5,000' MD	
FIELD Natural Butte	S	COUNTY	Uintah S	STATE Uta	h	FINIS	SHED ELEVATION	4,906'	
SURFACE LOCATION	SWSW	711 FSL	671 FWL	Sec 22	T 9S	R 21E			
	Latitude:	40.016284	Longitude	e: -109.54	4950		NAD 83		
BTM HOLE LOCATION	SWSW	711 FSL	671 FWL	Sec 22	T 9S	R 21E			
	Latitude:	40.016284	Longitude	e: -109.54	4950		NAD 83		
OBJECTIVE ZONE(S)	GREEN RI	VER							
ADDITIONAL INFO	Regulatory	Agencies: BLM (	Minerals), Ute Ind	lian Tribe (S	urface), l	JDOGM Tri-Co	ounty Health Dept.		





#### KERR-McGEE OIL & GAS ONSHORE LP

#### DRILLING PROGRAM

#### **CASING PROGRAM**

CONDUCTOR

**SURFACE PRODUCTION** 

								DESIGN F	ACTORS	
									LTC	DQX
SIZE	11	NTERVAL		WT.	GR.	CPLG.	BURST	COLLAPSE	TE	NSION
14"		0-40'								
							3,390	1,880	348,000	N/A
8-5/8"	0	to	2,840	28.00	IJ-55	LTC	1.89	1.41	4.33	N/A
							7,780	6,350		267,035
4-1/2"	0	to	5,000	11.60	I-80	DQX	1.11	2.94		5.27

Surface Casing:

(Burst Assumptions: TD =

8.3 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @

7000 psi)

0.42 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

#### **CEMENT PROGRAM**

	ſ	FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1			+ 0.25 pps flocele			· · · · · · · · · · · · · · · · · · ·	
•	CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE	ľ	•	NOTE: If well will circulate water to	surface, opt	ion 2 will be	utilized	
Option 2	LEAD	2,340'	65/35 Poz + 6% Gel + 10 pps gilsonite	220	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW			•	
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
			+ 0.25 pps flocele			·	
TC	OP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	2,340'	Premium Lite II +0.25 pps	160	35%	12.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	2,660'	50/50 Poz/G + 10% salt + 2% gel	630	35%	14.30	1.31
			+ 0.1% R-3			•	

<sup>\*</sup>Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

#### **FLOAT EQUIPMENT & CENTRALIZERS**

**SURFACE** 

Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe

**PRODUCTION** 

Float shoe, 1 jt, float collar.

1 centralizer on the first 3 joints and one every third joint thereafter to surface shoe

## **ADDITIONAL INFORMATION**

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

Nick Spence / Danny Showers

DATE:

DRILLING SUPERINTENDENT:

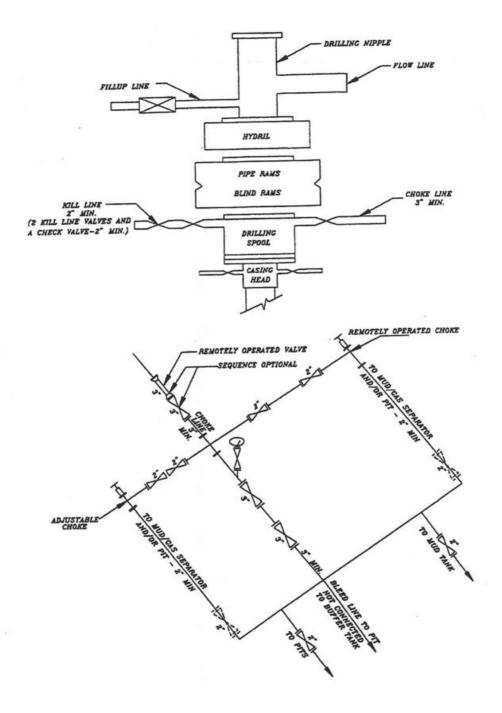
Kenny Gathings / Lovel Young

DATE:

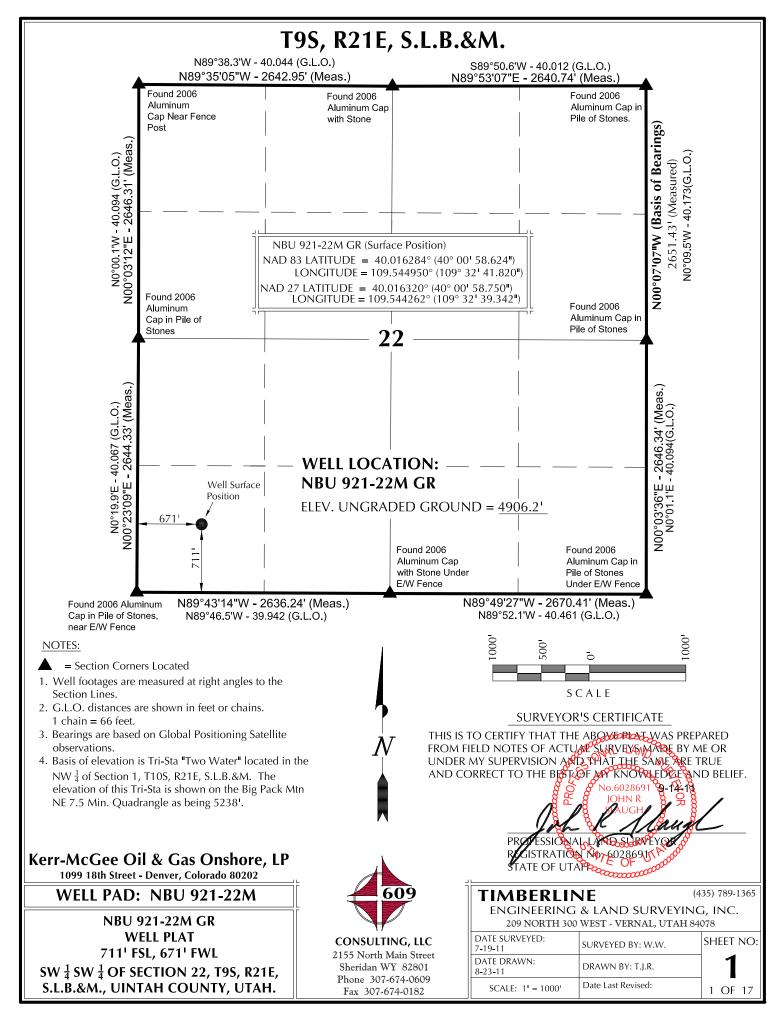
NBU 921-22M GR Green River- Vertical Program Template - 120511.xlsx RECEIVED: April 25, 2012

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

EXHIBIT A NBU 921-22M GR



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK



<u>-</u>	SURFACE POSITION					BOTTOM HOLE				
WELL NAME	NAC		NAC		FOOTAGES	NAC		NAC		FOOTAGES
NBU	<b>LATITUDE</b> 40°00'58.624"	<b>LONGITUDE</b> 109°32'41.820"	<b>LATITUDE</b> 40°00'58.750"	<b>LONGITUDE</b> 109°32'39.342"	711' FSL	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	FOOTAGES
921-22M GR	40.016284°	109-32-41.820 109.544950°	40.016320°	109°32°39.342 109.544262°	671' FWL					
NBU		109°32'41.962"		109°32'39.484"	695' FSL		109°32'39.834"		109°32'37.356"	
921-22M1BS	40.016239°	109.544990°	40.016274°	109.544301°	660' FWL	40.017294°	109.544398°	40.017329°	109.543710°	823' FWL
NBU 921-22M1CS	40°00'58.377" 40.016216°	109°32'42.033" 109.545009°	40°00'58.504" 40.016251°	109°32'39.554" 109.544321°	686' FSL 654' FWL	40°00'58.979" 40.016383°	109°32'39.859" 109.544405°	40°00'59.106" 40.016418°	109°32'37.381" 109.543717°	748' FSL 823' FWL
NBU		109°32'42.103"	40°00'58.421"		678' FSL	40°00'55.699"	109:344403 109°32'39.884"			
921-22M4BS	40.016193°	109.545028°	40.016228°	109.544340°	649¹ FWL	40.015472°	109.544412°	40.015507°	109.543724°	823' FWL
NBU 921-22M4CS	40°00'58.211" 40.016170°	109°32'42.174"	40°00'58.338"		670' FSL	40°00'52.439" 40.014566°	109°32'39.909"			
		109.545048° 109°32'41.907"	40.016205° 40°00'58.202"	109.544360° 109°32'39.428"	643' FWL 656' FSL	40.014366	109.544419°	40.014601°	109.543731°	823' FWL
NBU 193	40.016132°	109.544974°	40.016167°	109.544286°	664' FWL					
			RELATIVE (	COORDINATES	- From Surface	Position to Botte	om Hole			
WELL NAME	NORTH	EAST WE		ORTH EAS		NAME NOR		WELL NAM	ME NORTH	EAST
NBU	384.51	166 O' NBU	J	50.8' 169.	NIDLI	-262		NBU	-584.5	175.8
921-22M1BS	304.3	921	-22M1CS	109.	921-22	2M4BS =-202	9 172.4	921-22M4C	<u>s</u> -304.3	173.0
		THE S.L.E GLC	NE ¼ OF SECT 3.&M. WHICH DBAL POSITION	GS IS THE EAS' ION 22, T9S, F IS TAKEN FRC NING SATELLI' O BEAR N00°(	Γ LINE OF R21E, DM TE D7'07 <b>"</b> W.	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				
		30,	5 S C A L E	-09	/	AZ-	70.23944° 179.81 122"E - 179.81	<u> </u>	Bottom of	
				*	\ \\ \\P\_{\mathred{P}}	N70°12			Hole	//
		V			NBU 927/5/27 S16°44'25"E-07/7	921.22M185 21.22M185 21.22M185 21.22M185 22.22	10.22 179.55 10.22 179.55 10.64 ist. W. H. 1.123.322. 10.64 ist. W. H. 1.123. 10.64 ist. W. H. 1.123. 10.64 ist. W. H. 1.123.		Hole	
1099 18	8th Street - De	Gas Ons	80202		18 0 97 15 27 S16°44'25"E 0 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	921.22M 185 AZ ZINO SOLO SOLO SOLO SOLO SOLO SOLO SOLO SO	Az to Exist. W. H. S. to Exist. W. H. S. to Exist. W. H. S. W.	\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		35) 789-1365
1099 18 WEL	8th Street - Dei LPAD - N	nver, Colorado IBU 921-2	80202 2 22M		om Hole)	921.22M 1.22M188 AX. 10.1248 1.22M188 AX. 10.1248 1	Az to Exist. W. H. S. O. Exist.	(A) 186.980000 \$12.698090 \$2.5698090 \$3.543610 \$500 \$500 \$500 \$500 \$10	(4: SURVEYINC	G, INC.
WELL	8th Street - De LPAD - N PAD INTI	NBU 921-2 RFERENCI	22M PLAT		609	921.22M 185 A. 101.22M 185 A. 101.22	MBERL  MB	(A) 186.980000 \$12.698090 \$2.5698090 \$3.543610 \$500 \$500 \$500 \$500 \$10	(4: SURVEYINC RNAL, UTAH 840	G, INC. 078
WELL WELL	Bth Street - Del L PAD - N . PAD INTI WELLS - NBU	NBU 921-2 RFERENCE 1 921-22M G	80202 22M E PLAT R,	CONS	609	921.22M 185 22.1.22M 185 22.1.2	MBERL  ENGINEERIN  209 NORTH:  E SURVEYED:	(A) 186.980000 \$12.698090 \$2.5698090 \$3.543610 \$500 \$500 \$500 \$500 \$10	(4: SURVEYINC RNAL, UTAH 84(	G, INC. 078
WELL WELL WNBU 9	8th Street - Dei L PAD - N . PAD INTI WELLS - NBU 921-22M1BS,	NBU 921-2 RFERENCE 921-22M G NBU 921-22	80202 22M E PLAT R, 2M1CS,	CONS 2155 No	609 ULTING, LLeorth Main Stree	921.22M 185 22.1.22M 185 22.1.2	MBERL  ENGINEERIN  209 NORTH:  E SURVEYED:	INE  SURVEYED B	(4: SURVEYINC RNAL, UTAH 840 3Y: W.W.	G, INC. 078
WELL WELL NBU 9 NBU 9	Bth Street - Der L PAD - N . PAD INTI WELLS - NBU 021-22M1BS, 21-22M4BS	NBU 921-2 RFERENCE 1 921-22M G	80202 22M E PLAT R, 2M1CS, 22M4CS	CONS 2155 No Sherid	609	921.22M 185 1.22M 185 2.1.22M	MBERL ENGINEERIN 209 NORTH: E BRAWN:	INE  ISB. 380000  123.698890  153.698890  25.543610  25.00  100  100  100  100  100  100  100	(4: SURVEYINC RNAL, UTAH 840 3Y: W.W.	G, INC.

S.L.B.&M., UINTAH COUNTY, UTAH

209 NORTH 300 WEST - VERNAL, UTAH 84078

RECEIVED: April 25, 2012

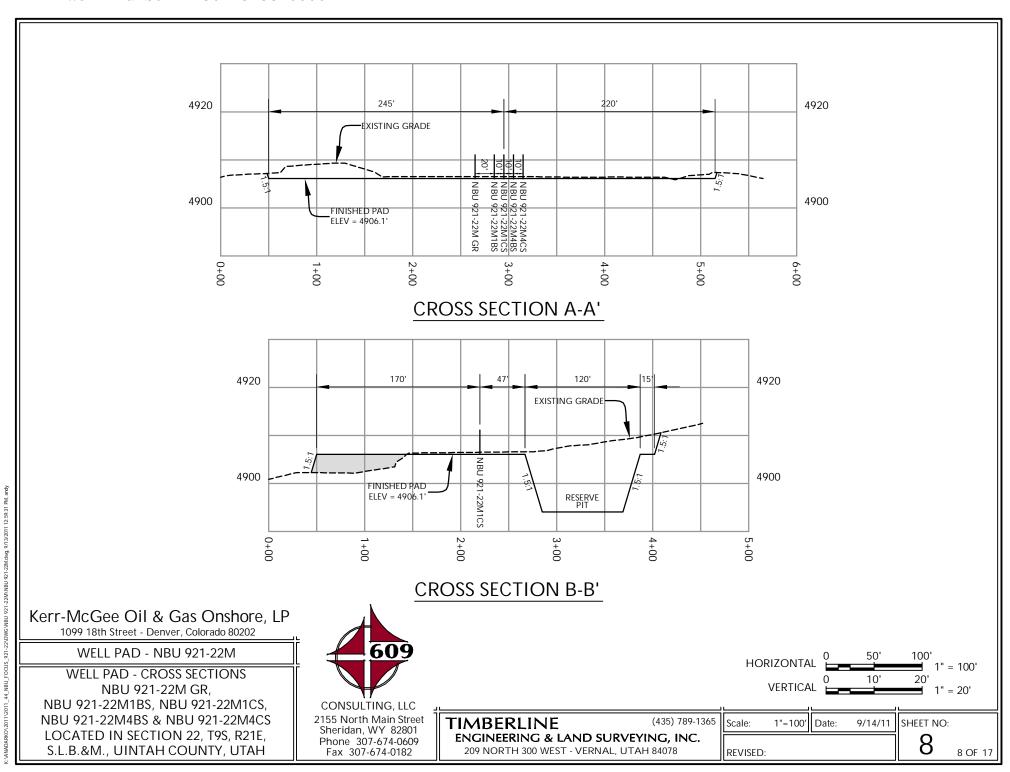
7 OF 17

**REVISED:** 

S.L.B.&M., UINTAH COUNTY, UTAH

209 NORTH 300 WEST - VERNAL, UTAH 84078

**REVISED:** 



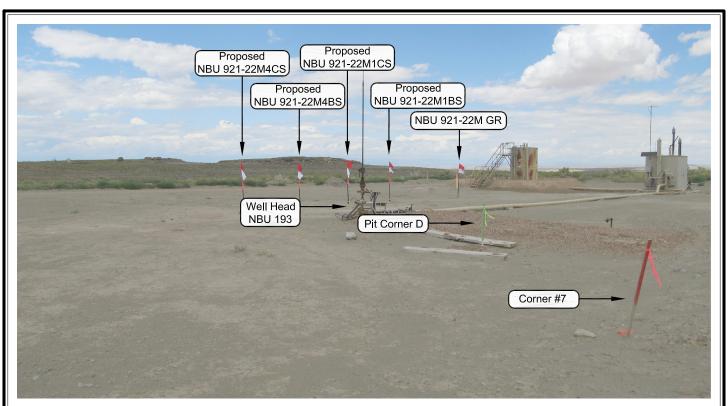


PHOTO VIEW: FROM CORNER #7 TO LOCATION STAKE

**CAMERA ANGLE: NORTHEASTERLY** 



PHOTO VIEW: FROM EXISTING ACCESS ROAD

**CAMERA ANGLE: SOUTHERLY** 

# Kerr-McGee Oil & Gas Onshore, LP

1099 18th Street - Denver, Colorado 80202

# WELL PAD - NBU 921-22M

**LOCATION PHOTOS** NBU 921-22M GR, NBU 921-22M1BS, NBU 921-22M1CS, NBU 921-22M4BS & NB921-22M4CS, **LOCATED IN SECTION 22, T9S, R21E,** S.L.B.&M., UINTAH COUNTY, UTAH.



#### CONSULTING, LLC 2155 North Main Street Sheridan WY 82801 Phone 307-674-0609 Fax 307-674-0182

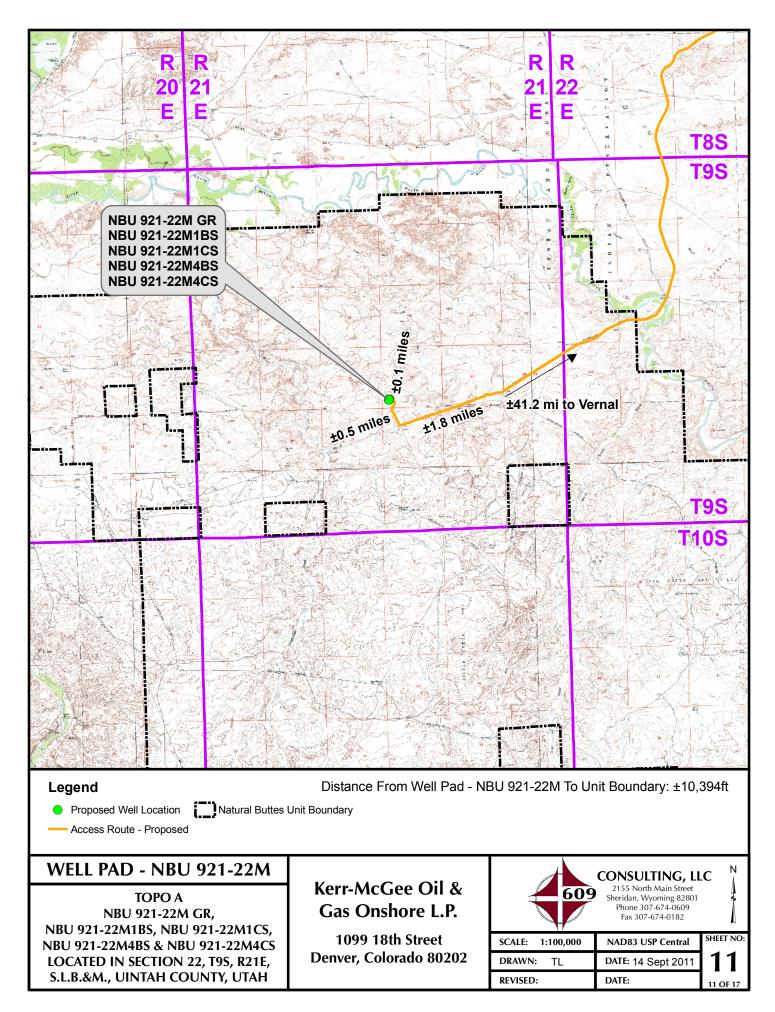
#### TIMBERLINE

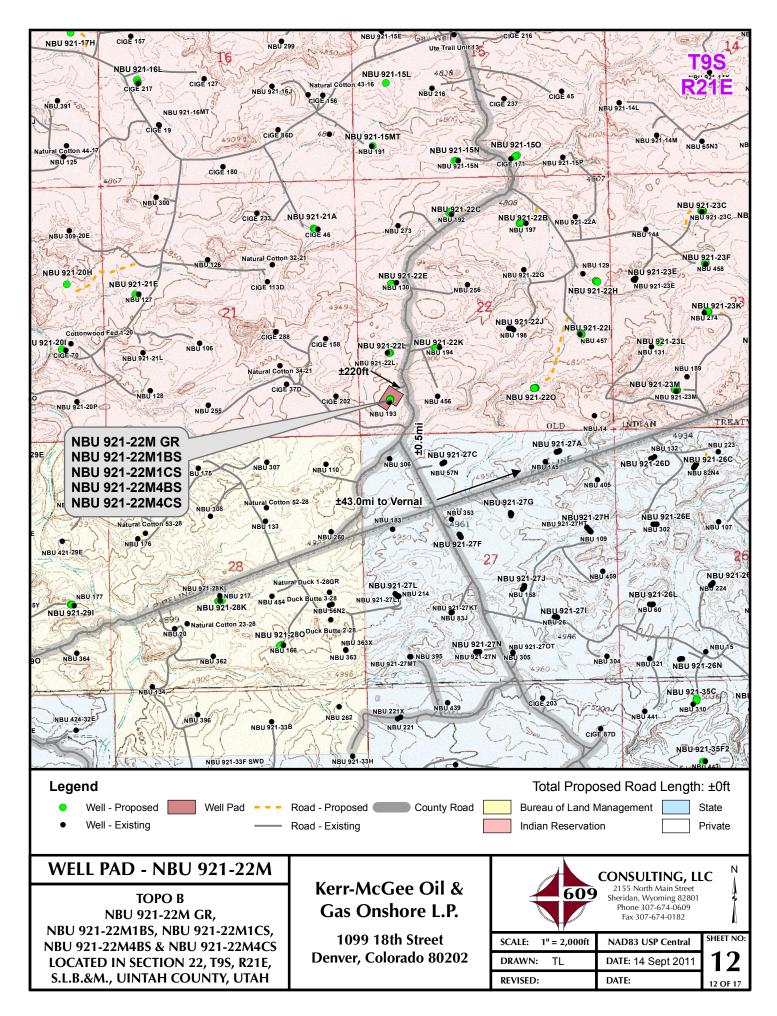
(435) 789-1365

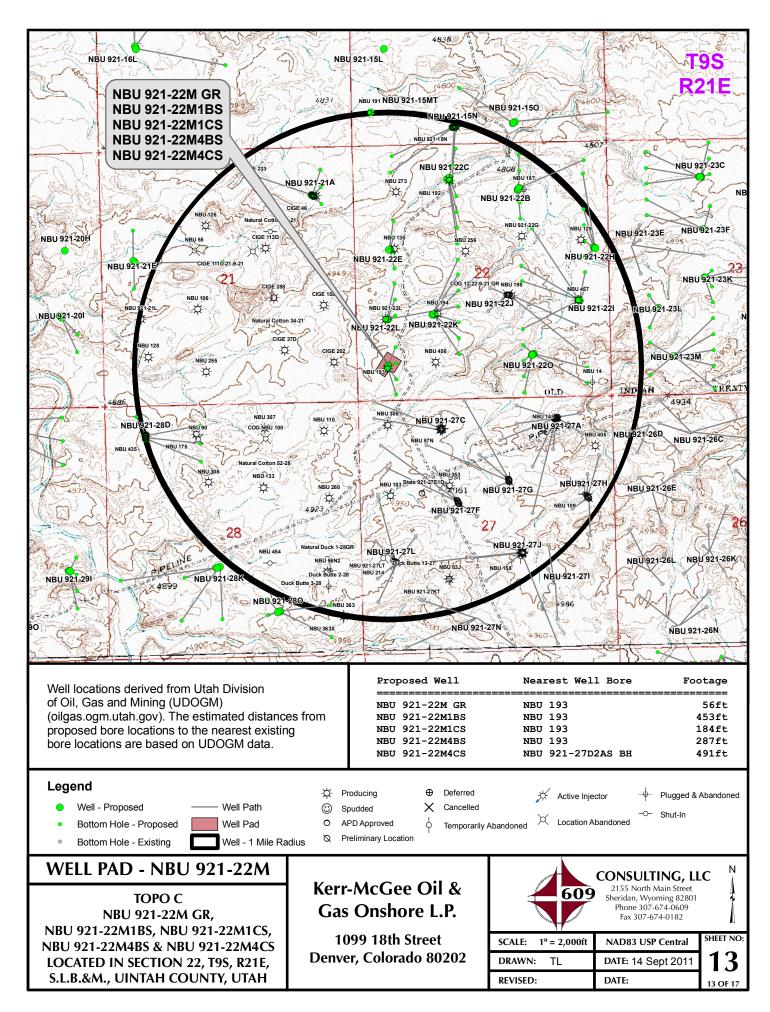
10 OF 17

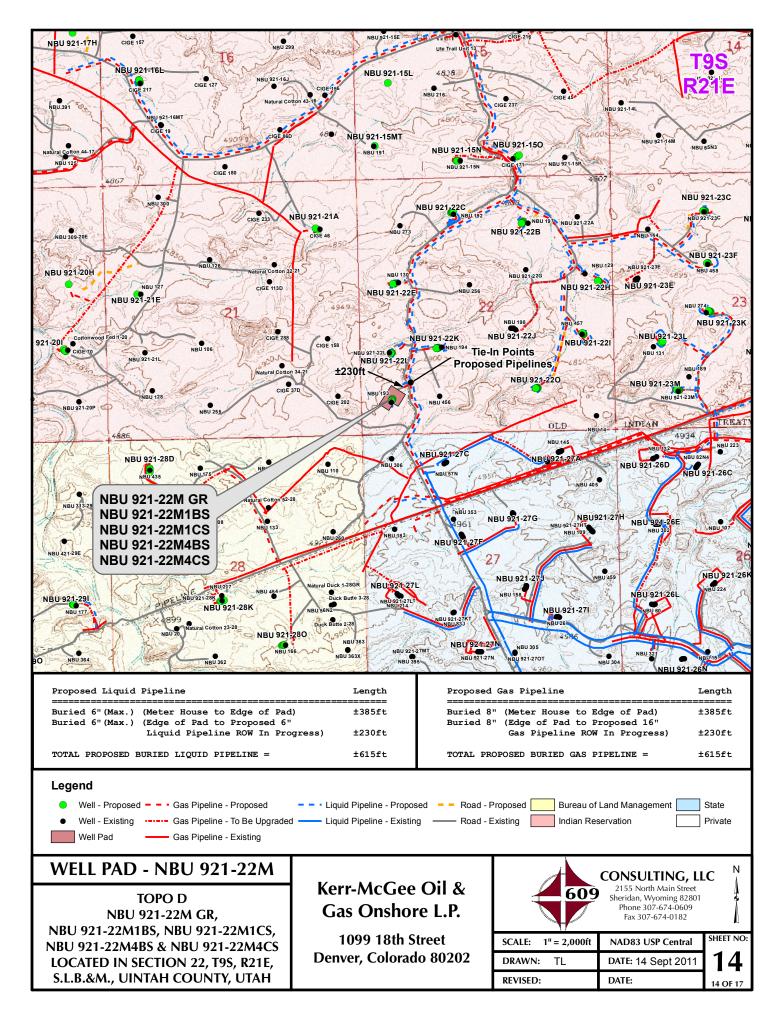
ENGINEERING & LAND SURVEYING, INC. 209 NORTH 300 WEST - VERNAL, UTAH 84078

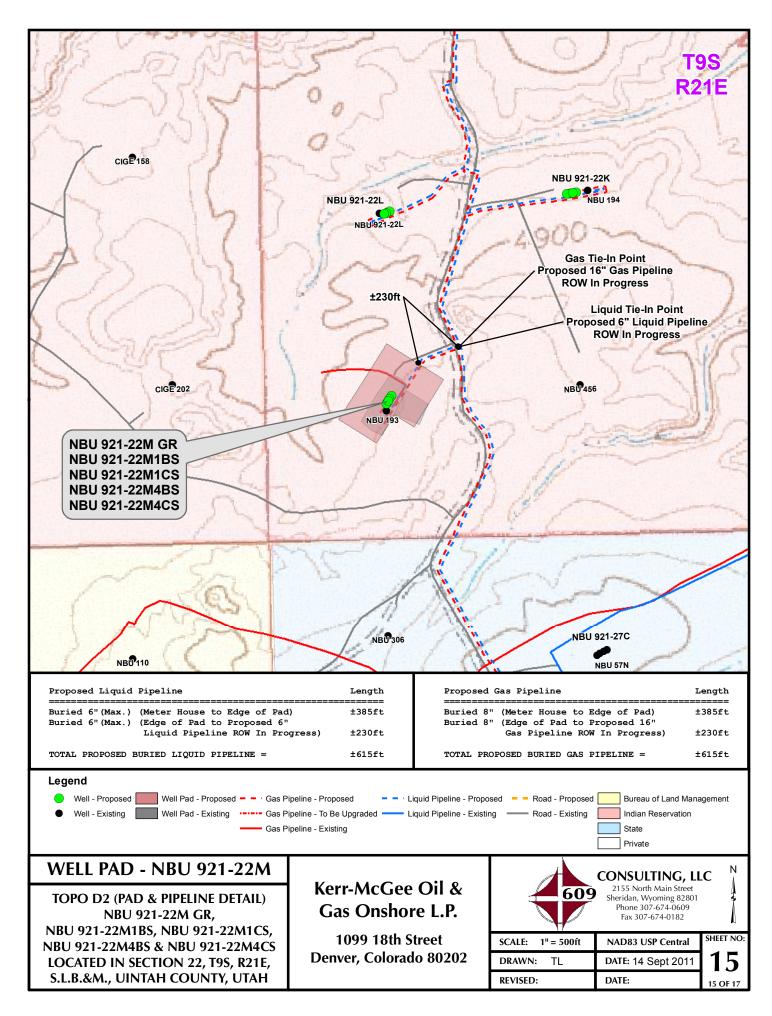
DATE PHOTOS TAKEN: 7-19-11	PHOTOS TAKEN BY: W.W.	SHEET NO:
DATE DRAWN: 8-23-11	DRAWN BY: T.J.R.	10
Date Last Revised:		10 OF 17

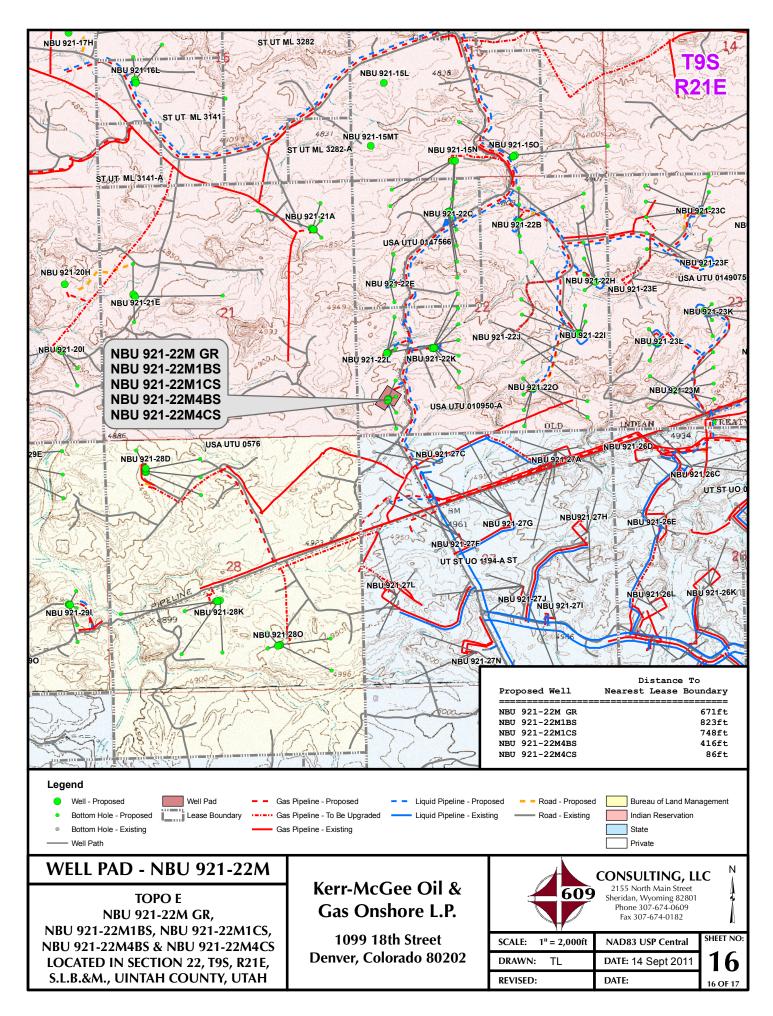












Kerr-McGee Oil & Gas Onshore, LP WELL PAD - NBU 921-22M WELLS – NBU 921-22M GR, NBU 921-22M1BS, NBU 921-22M1CS, NBU 921-22M4BS & NBU 921-22M4CS Section 22, T9S, R21E, S.L.B.&M.

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 17.7 miles to a Class D County Road to the southwest. Exit right and proceed in a southwesterly direction along the Class D County Road approximately 1.8 miles to a second Class D County Road to the north. Exit right and proceed in a northerly direction along the second Class D County Road approximately 0.5 miles to a service road to the southwest. Exit left and proceed in a southwesterly direction along the service road approximately 220 Feet to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 43.5 miles in a southerly direction.

**SHEET 17 OF 17** 

NBU 921-22M GR/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22M Pad Surface Use Plan of Operations 1 of 11

### Kerr-McGee Oil & Gas Onshore. L.P.

#### NBU 921-22M Pad

API#		NBU 921-22M GR		
	Surface:	711 FSL / 671 FWL	SWSW	Lot
	BHL:	711 FSL / 671 FWL	SWSW	Lot
API#		NBU 921-22M1BS		
	Surface:	695 FSL / 660 FWL	SWSW	Lot
	BHL:	1080 FSL / 823 FWL	SWSW	Lot
API#		NBU 921-22M1CS		
	Surface:	686 FSL / 654 FWL	SWSW	Lot
	BHL:	748 FSL / 823 FWL	SWSW	Lot
API#		NBU 921-22M4BS		
	Surface:	678 FSL / 649 FWL	SWSW	Lot
	BHL:	416 FSL / 823 FWL	SWSW	Lot
API#		NBU 921-22M4CS		
	Surface:	670 FSL / 643 FWL	SWSW	Lot
	BHL:	86 FSL / 823 FWL	SWSW	Lot

This Surface Use Plan of Operations (SUPO) or 13-point plan provides site-specific information for the above-referenced wells.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

An on-site meeting was held on October 3-4, 2011. Present were:

- · Bucky Secakuku (10/4/2011 only) BIA;
- · LeAllen Blackhair, Rainey Longhair Ute Indian Tribe;
- · Kelly Jo Jackson Montgomery Archeological Consultants Inc.;
- Scott Carson Smiling Lake Consulting;
- John Slaugh, Mitch Batty Timberline Engineering & Land Surveying, Inc.;
- · Laura Abrams, Charles Chase, Raleen White, Doyle Holmes, Lovel Young, Sheila Wopsock Kerr-McGee

#### A. Existing Roads

Existing roads consist of county and improved/unimproved access roads (two-tracks). In accordance with Onshore Order #1, Kerr-McGee will, in accordance with BMPs, improve or maintain existing roads in a condition that is the same as or better than before operations began. New or reconstructed proposed access roads are discussed in Section B

The existing roads will be maintained in a safe and usable condition. Maintenance for existing roads will continue until final abandonment and reclamation of well pads and/or other facilities, as applicable. Road maintenance will include, but is not limited to, blading, ditching, and/or culvert installation and cleanout. To ensure safe operating conditions, gravel surfacing will be performed where excessive rutting or erosion may occur. Dust control will be performed as necessary to ensure safe operating conditions.

NBU 921-22M GR/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore. L.P.

NBU 921-22M Pad Surface Use Plan of Operations 2 of 11

Roads, gathering lines and electrical distribution lines will occupy common disturbance corridors where possible. Where available, roadways will be used as the staging area and working space for installation of gathering lines. All disturbances located in the same corridor will overlap each other to the maximum extent possible, while maintaining safe and sound construction and installation practices. Unless otherwise approved or requested in site specific documents, in no case will the maximum disturbance widths of the access road and utility corridors exceed the widths specified in Part D of this document.

Please refer to Topo B, for existing roads.

#### B. New or Reconstructed Access Roads:

All new or reconstructed roads will be located, designed, and maintained to meet the standards of the BIA.

Each new well pad or pad expansion may require construction of a new access road and/or de-commissioning of an older road. Plans, routes, and distances for new roads and road improvements are provided in design packages, exhibits and maps for a project. Project-specific maps are submitted to depict the locations of existing, proposed, and/or decommissioned and include the locations for supporting structures, including, but not limited to, culverts, bridges, low water crossings, range infrastructure, and haul routes, as per OSO 1. Designs for cuts and fills, including spoils source and storage areas, are provided with the road designs, as necessary.

Where safety objectives can be met. As applicable, Kerr-McGee may use unimproved and/or two-track roads for lease operations, to lessen total disturbance.

Road designs will be based on the road safety requirements, traffic characteristics, environmental conditions, and the vehicles the road is intended to carry. Generally, newly constructed unpaved lease roads will be crowned and ditched with the running surfaces of the roads approximately 12-18 feet wide and a total road corridor width not to exceed 45 feet, except where noted in the road design for a specific project. Maximum grade will generally not exceed 8%. Borrow ditches will be back sloped 3:1 or less. Construction BMPs will be employed to control onsite and offsite erosion.

Where topography would direct storm water runoff to an access road or well pad, drainage ditches or other common drainage control facilities, such as V- or wing-ditches, will be constructed to divert surface water runoff. Drainage features, including culverts, will be constructed or installed prior to commencing other operations, including drilling or facilities placement. Riprap will be placed at the inlet and outlet at the culvert(s), as necessary.

Prior to construction, new access road(s) will be staked according to the requirements of OSO 1. Construction activity will not be conducted using frozen or saturated materials or during periods when significant watershed damage (e.g. rutting, extensive sheet soil erosion, formation of rills/gullies, etc.) is likely to occur. Vegetative debris will not be placed in or under fill embankments.

New road maintenance will include, but is not limited to, blading, ditching, culvert installation and cleanout, gravel surfacing where excessive rutting or erosion may occur and dust control, as necessary to ensure safe operating conditions. All vehicular traffic, personnel movement, construction/restoration operations will be confined to the approved area and to existing roadways and/or access routes.

Snow removal will be conducted on an as-needed basis to accommodate safe travel. Snow removal will occur as necessary throughout the year, as will necessary drainage ditch construction. Removed snow may be stored on permitted well pads to reduce hauling distances and/or at the aerial extent of approved disturbance boundaries to facilitate snow removal for the remainder of the season.

If a county road crossing or encroachment permit is needed, it will be obtained prior to construction.

No new access road is proposed for this well pad.

NBU 921-22M GR/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22M Pad Surface Use Plan of Operations 3 of 11

#### C. Location of Existing Wells:

A) Refer to Topo Map C.

#### D. Location of Existing and/or Proposed Facilities:

This pad will expand the existing pad for the NBU 193, which is a producing gas well according to Utah Division of Oil, Gas and Mining (UDOGM) records on November 7, 2011. Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee Oil and Gas Onshore LP (Kerr-McGee).

Should the well(s) prove productive, production facilities will be installed on the disturbed portion of each well pad. A berm will be constructed completely around production components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will generally be constructed of compacted subsoil or corrugated metal, and will hold the capacity of the largest tank and have sufficient freeboard to accommodate a 25 year rainfall event. This includes pumping units. Aboveground structures constructed or installed onsite for 6 months or longer, will be painted a flat, non-reflective, earth-tone color chosen at the onsite (typically Shadow Gray). A production facility layout is provided as part of a project-specific APD, ROW or NOS submission.

#### **GAS GATHERING**

Please refer to Topo D2- Pad and Pipeline Detail.

The gas gathering pipeline material: Steel line pipe. Surface = Bare pipe. Buried = Coated with fusion bonded epoxy coating (or equivalent). The total gas gathering pipeline distance from the meter to the tie in point is  $\pm 615$ ' and the individual segments are broken up as follows:

The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe.

±615' (0.1 miles) – Section 22 T9S R21E (SW/4) – On-lease UTU010950A Ute Indian Tribe surface, New 8" buried gas gathering pipeline from the meter to the proposed 16" gas pipleine- ROW in progress. Please refer to Topo D2 - Pad and Pipeline Detail.

#### LIQUID GATHERING

Please refer to Topo D2- Pad and Pipeline Detail.

The total liquid gathering pipeline distance from the separator to the tie in point is  $\pm 615$ ° and the individual segments are broken up as follows:

The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe.

±615' (0.1 miles) – Section 22 T9S R21E (SW/4) – On-lease UTU010950A Ute Indian Tribe surface, New 6" buried liquid gathering pipeline from the separator to the proposed 6" liquid pipeline- ROW in progress. Please refer to Topo D2 - Pad and Pipeline Detail.

#### **Pipeline Gathering Construction**

Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee. Gas gathering pipeline(s,) gas lift, or liquids pipelines may be constructed to lie on the surface or be buried. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. The area of disturbance during construction from the edge of road or well pad will typically be 30' in width. Where pipelines run cross country, the width of disturbance will typically be 45 ft for buried lines and 30 ft for surface lines. In addition, Kerr-McGee requests for a permanent 30' disturbance width that will be maintained for the portion adjacent to the road. The need for the 30' permanent disturbance width is for maintenance and repairs. Cross country permanent disturbance width also are required to be 30ft.

RECEIVED: April 25, 2012

NBU 921-22M GR/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22M Pad Surface Use Plan of Operations 4 of 11

Above-ground installation will generally not require clearing of vegetation or blading of the surface, except where safety considerations necessitate earthwork. In some surface pipeline installation instances pipe cannot be constructed where it will lay. In these cases where an above-ground pipeline is constructed parallel and adjacent to a road, it will be welded/fused on the road and then lifted from the road to the pipeline route. In other cases where a pipeline route is not parallel and adjacent to a road (cross-country between sites), it will be welded/fused in place at a well pad, access road, or designated work area and pulled between connection locations with a suitable piece of equipment.

Buried pipelines will generally be installed parallel and adjacent to existing and/or newly constructed roads and within the permitted disturbance corridor. Buried pipelines may vary from 2 inches (typically fuel gas lines) to 24 inches (typically transportation lines) in diameter, but 6 to 16 inches is typical for a buried gas line. The diameter of liquids pipelines may vary from 2 inches to 12 inches, but 6 inches is the typical diameter. Gas lift lines may vary from 2 to 12 inches in diameter, but 6-inch diameter pipes are generally used for gas lift. If two or more pipelines are present (gas gathering, gas lift, and fluids), they will share a common trench where possible.

Typically, to install a buried pipeline, topsoil will be removed, windrowed and placed on the non-working side of the route for later reclamation. Because working room is limited, the spoil may be spread out across the working side and construction will take place on the spoil. The working side of the corridor will be used for pipe stringing, bending, welding and equipment travel. Small areas on the working side displaying ruts or uneven ground will be groomed to facilitate the safe passage of equipment. After the pipelines are installed, spoil will be placed back into the trench, and the topsoil will be redistributed over the disturbed corridor prior to final reclamation. Typical depth of the trench will be 6 feet, but depths may vary according to site-specific conditions (presence of bedrock, etc.). The proposed trench width for the pipeline would range from 18-48 inches.

The pipeline will be welded along the proposed route and lowered into place. Trenching equipment will cut through the soil or into the bedrock and create good backfill, eliminating the need to remove large rocks. The proposed buried pipeline will be visually and radiographically inspected and the entire pipeline will be pneumatically or hydrostatically tested before being placed into service. Routine vehicle traffic will be prevented from using pipeline routes as travel ways by posting signs at the route's intersection with an access road.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

If pipelines or roads encounter a drainage that could be subject to flooding or surface water during extreme precipitation events, Kerr-McGee will apply all applicable Army Corps mandates as well as the BLM's Hydraulic Considerations for Pipeline Crossings of Stream Channels (BLM Technical Note 423, April 2007). In addition, all stream and drainage crossings will be evaluated to determine the need for stream alteration permits from the State of Utah Division of Water Rights and if necessary, required permits will be secured. Similarly, where a road or pipeline crossing exists the pipe will be butt welded and buried to a depth between 24 and 48 inches or more. Dirt roads will be cut and restored to a condition equivalent to the existing condition. All Uintah County road encroachment and crossing permits, where applicable, will be obtained prior to crossing construction. In no case will pressure testing of pipelines result in discharge of liquids to the surface

Pipeline signs will be installed along the route to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves and lateral T's will be installed at various locations for production integrity and safety purposes.

Upon completion of the proposed buried pipeline, the entire area of disturbance will be reclaimed to the standards proposed in the Green River District Reclamation Guidelines. Please refer to section J for more details regarding final reclamation.

When no longer deemed necessary by the operator, Kerr-McGee or it's successor will consult with the Vernal BIA Office before terminating of the use of the pipeline(s).

#### The Anadarko Completions Transportation System (ACTS) information:

Kerr-McGee will use either a closed loop drilling system that will require one pit and one storage area to be constructed on the drilling pad or a traditional drilling operation with one pit. The storage area will be used to contain only the de-watered drill cuttings and will be lined and reclaimed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit is lined and will be used for the wells drilled on the pad or used as part of our Anadarko Completions Transportation (ACTS) system which is discussed in more detail below. Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completion pit.

NBU 921-22M GR/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22M Pad Surface Use Plan of Operations 5 of 11

If Kerr-McGee does not use a closed loop system, it will construct a drilling reserve pit to contain drill cuttings and for use in completion operations. Depending on the location of the pit, its relation to future drilling locations, the reserve/completion pit will be utilized for the completion of the wells on that pad and/or be used as part of our ACTS system.

Kerr-McGee will use ACTS to optimize the completion processes for multiple pads across the project area which may include up to a section of development. ACTS will facilitate management of frac fluids by utilizing existing reserve pits and temporary, surface-laid aluminum liquids transfer lines between frac locations. The pit will be refurbished as follows when a traditional drill pit is used: mix and pile up drill cuttings with dry dirt, bury the original liner in the pit, walk bottom of pit with cat. Kerr-McGee will reline the pit with a 30 mil liner and double felt padding. The refurbished pit will be the same size or smaller as specified in the originally approved ROW/APD. The pit refurb will be done in a normal procedure and there will be no modification to the pit.

All four sides of the completions pit will be fenced in according to standard pit fencing procedures. Netting will be installed over all pits.

The collected hydrocarbons will be treated and sold at approved sales facilities. A loading rack with drip containment will also be installed where water trucks would unload and load to prevent damage caused from pulling hoses in and out of the pit.

ACTS will require temporarily laying multiple 6" aluminum water transfer lines on the surface between either existing or refurbished reserve pits. The temporary aluminum transfer lines will be utilized to transport frac fluid being injected and/or recovered during the completion process and will be laid adjacent to existing access roads or pipeline corridors. Upon completion of the frac operation, the liquids transfer lines will be flushed with fresh water and purged with compressed air. The contents of the transfer lines will be flushed into a water truck for delivery to another ACTS location or a reserve pit.

The temporary ACTS lines will be permitted under a separate cover to the Ute Indian Tribe.

The volume of frac fluid transported through a water transfer line will vary, but volume is projected to be approximately 1.75 bbls per 50-foot joint. Although the maximum working pressure is 125 psig, the liquids transfer lines will be operated at a pressure of approximately 30 to 40 psig. Kerr-McGee requests to keep the netted pit open for one year from first production of the first produced well on the pad. During this time the surrounding well location completion fluids may be recycled in this pit and utilized for other frac jobs in the area. After one year Kerr-McGee will backfill the pit and reclaim. If the pit is not needed for an entire year it will be backfilled and reclaimed earlier. Kerr-McGee understands that due to the temporary nature of this system, BIA considers this a casual use situation; therefore, no permanent ROW or temporary use plan will need to be issued by the BIA.

#### E. Location and Types of Water Supply:

Water for drilling and completion operations will be obtained from the following sources:

Permit # 49-2307	JD Field Services	Green River- Section 15, T2N, R22E
Permit # 49-2321	R.N. Industries	White River- Section 2, T10S, R24E
Permit # 49-2319	R.N. Industries	White River- Various Sources
Permit # 49-2320	R.N. Industries	Green River- Section 33, T8S, R23E

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

#### F. Construction Materials:

Construction operations will typically be completed with native materials found on location. Construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source (described in site-specific documents). No construction materials will be removed from Tribal lands without prior approval from the BIA. A source location other than an on-location construction site will be designated either via a map or narrative within the project specific materials provided to the BIA.

#### **G.** Methods for Handling Waste:

All wastes subject to regulation will be handled in compliance with applicable laws to minimize the potential for leaks or spills to the environment. Kerr-McGee also maintains a Spill Control and Countermeasure Plan, which includes notification requirements, including the BIA, for all reportable spills of oil, produced liquids, and hazardous materials.

NBU 921-22M GR/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22M Pad Surface Use Plan of Operations 6 of 11

Any accidental release, such as a leak or spill in excess of the reportable quantity, as established by 40 CFR Part 117.3, will be reported as per the requirements of CERCLA, Section 102 B. If a release involves petroleum hydrocarbons or produced liquids, Kerr-McGee will comply with the notification requirements of NTL-3A. Drill cuttings and/or drilling fluids will be contained in the reserve/frac pit whether a closed loop system is used or not. Cuttings will be buried in pit(s) upon closure. Unless specifically approved by the BIA, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface precipitation runoff into the pit (via appropriate placement of subsoil storage areas and/or construction of berms, ditches, etc.). Should unexpected liquid petroleum hydrocarbons (crude oil or condensate) be encountered during drilling, completions or well testing, liquid petroleum hydrocarbons will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by the BIA. Should timely removal not be feasible, the pit will be netted as soon as practical. Similarly, hydrocarbon removal will take place prior to the closure of the pit, unless authorization is provided for disposal via alternate pit closure methods (e.g. solidification).

The reserve and/or fracture stimulation pit will be lined with an impermeable liner. The liner will be a synthetic material 30 mil or thicker. The bottom and side walls of the pit will be void of any sharp rocks that could puncture the liner. The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. After evaporation and when dry, the reserve pit liners will be cut off, ripped and/or folded back (as safety considerations allow) as near to the mud surface as possible and buried on location or hauled to a landfill prior to backfilling the pit with a minimum of five feet of soil material.

Where necessary and if conditions (freeboard, etc.) allow, produced liquids from newly completed wells may be temporarily disposed of into pits for a period not to exceed 90 days as per Onshore Order Number 7 (OSO 7). Subsequently, permanent approved produced water disposal methods will be employed in accordance with OSO 7 and/or as described in a Water Management Plan (WMP). Otherwise, fluids disposal locations and associated haul routes, for ROW consideration, are typically depicted on Topo A of individual projects. Revisions to the water source or method of transportation will be subject to written approval from the BIA.

Any additional pits necessary for subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after one year from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse (trash and other solid waste including cans, paper, cable, etc.) generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility. Immediately after removal of the drilling rig, all debris and other waste materials not contained within trash receptacles will be collected and removed from the well location.

For the protection of livestock and wildlife, all open pits (excluding flare pits) will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet. Siphons, catchments, and absorbent pads will be installed to keep hydrocarbons produced by the drilling rig or other equipment on location from entering the reserve pit. Hydrocarbons, contaminated pads, and/or soils will be disposed of in accordance with state and federal requirements.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

NBU 921-22M GR/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22M Pad Surface Use Plan of Operations 7 of 11

#### **Materials Management**

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Hazardous materials may be contained in some grease or lubricants, solvents, acids, paint, and herbicides, among others as defined above. Kerr-McGee maintains a file, per 29 CFR 1910.1200 (g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances that are used during the course of construction, drilling, completion, and production operations for this project. The transport, use, storage and handling of hazardous materials will follow procedures specified by federal and state regulations. Transportation of hazardous materials to the well location is regulated by the Department of Transportation (DOT) under 49 CFR, Parts 171-180. DOT regulations pertain to the packing, container handling, labeling, vehicle placarding, and other safety aspects.

Potentially hazardous materials used in the development or operation of wells will be kept in limited quantities on well sites and at the production facilities for short periods of time. Chemicals meeting the criteria for being an acutely hazardous material/substance or meet the quantities criteria per BLM Instruction Memorandum No. 93-344 will not be used.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities (crude oil/condensate, produced water). They may also be kept in limited quantities on drilling sites (barite, diesel fuel, cement, cottonseed hulls etc.) for short periods of time during drilling or completion activities.

Fluids disposal and pipeline/haul routes are depicted on Topo Map A.

Any produced water separated from recoverable condensate from the proposed well will be contained in a water tank and will then be transported by pipeline and/or truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E NBU #159 in Sec. 35 T9S R21E Ace Oilfield in Sec. 2 T6S R20E MC&MC in Sec. 12 T6S R19E Pipeline Facility in Sec. 36 T9S R20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E

Bonanza Evaporation Pond in Sec. 2 T10S R23E

Or to one of the following Kerr-McGee active Salt Water Disposal (SWD) wells:

NBU 159 SWD in Sec. 35 T9S R21E CIGE 112D SWD in Sec. 19 T9S R21E CIGE 114 SWD in Sec. 34 T9S R21E NBU 921-34K SWD in Sec. 34 T9S R21E NBU 921-33F SWD in Sec. 34 T9S R21E

# H. Ancillary Facilities:

ancillary facilities are

#### I. Well Site Layout:

The location, orientation and aerial extent of each drill pad, reserve/completion/flare pit (for closed loop or non-closed loop operations), access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure, proposed cuts and fills, and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment depending on whether a closed loop system is used. Surface distance may be less if using closed loop. But in either case, the area of disturbance will not exceed the maximum disturbance outlined in the attached exhibits.

RECEIVED: April 25, 2012

NBU 921-22M GR/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22M Pad Surface Use Plan of Operations 8 of 11

For the protection of livestock and wildlife, all open pits and cellars will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Each well will utilize either a centralized tank battery, centralized fluids management system, or have tanks installed on its pad. Production/ Produced Liquid tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks will be kept reasonably free from surface accumulations of liquid hydrocarbons. The tanks are not to be used for disposal of liquids from additional sources without prior approval of BIA.

#### J. Plans for Surface Reclamation:

The surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. Interim reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but is not limited to the re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

#### **Interim Reclamation**

Interim reclamation may include pit evaporation, fluid removal, pit solidification, re-contouring, ripping, spreading top soil, seeding, and/or weed control. Interim reclamation will be performed in accordance with OSO 1, or written notification will be provided to the BIA for approval. Where feasible, drilling locations, reserve pits, or access routes not utilized for production operations will be re-contoured to a natural appearance.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left "rough" after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit. Disposal of pit fluids and linings is discussed in Section G.

#### **Final Reclamation**

Final reclamation will be performed for unproductive wells and after the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by Kerr-McGee. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. The BIA will be notified prior to commencement of reclamation operations. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring the site to the approximate contour that existed prior to pad construction, final grading will be conducted over the entire surface of the well site and access road. The area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers, where practical. The surface soil material will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep, where practical. The entire area will be uniformly covered with the depressions constructed perpendicular to the natural flow of water.

NBU 921-22M GR/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore. L.P.

NBU 921-22M Pad Surface Use Plan of Operations 9 of 11

Reclamation of roads will be performed at the discretion of the BIA/Tribe. All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded in accordance with the seeding specifications as proposed below in "Measures Common to Interim and Final Reclamation".

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to the BIA/Tribe.

#### **Measures Common to Interim and Final Reclamation**

Soil preparation will be conducted using a disk for areas in need of more soil preparation following site preparation. This will provide primary soil tillage to a depth no greater than 6 inches. Prior to reseeding, compacted areas will be scarified by ripping or chiseling to loosen compacted soils, promote water infiltration, and improve soil aeration and root penetration.

Seeding will occur year-round as conditions allow and will typically be accomplished through the use of a no-till rangeland style seed drill with a "picker box" in order to seed "fluffy" seed. Where drill seeding is not the preferred method, seed will be broadcast and then raked into the ground at double the rate of drill seeding. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The seed mixes will be selected from a list provided by or approved by the BIA/Tribe or a specific seed mix will be proposed by Kerr-McGee to the BIA/Tribe and used after its approval. The selected specific seed mix for each well location and road segment will be utilized while performing interim and final reclamation for each project. All seed will be certified and tags will be maintained by Kerr-McGee. Every effort will be made to obtain "cheat grass free seed".

Seed Mix to be used for Well Site, Access Road, and Pipeline (as applicable):

Indian Ricegrass (Nezpar)	3
Sandberg Bluegrass	0.75
Bottlebrush Squirreltail	1
Great Basin Wildrye	0.5
Crested Wheatgrass	1.5
Winterfat	0.25
Shadscale	1.5
Four-wing Saltbrush	0.75
Forage Kochia	0.25
Total	9.5

Additional soil amendments and/or stabilization may be required on sites with poor soils and/or excessive erosion potential. Where severe erosion can become a problem and/or the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. Slopes will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to: erosion control blankets, hydro-mulch, and/or bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

#### **Weed Control**

Noxious weeds will be controlled in akk orihect areas un accordance with all applicable rules and regulations.

#### K. Surface/Mineral Ownership:

Ute Indian Tribe P.O. Box 70 988 South 7500 East Annex Building Fort Duschesne, UT 84026 (435) 722-4307 United States of America Bureau of Land Management 170 South 500 East Vernal, UT 84078 (435) 781-4400 NBU 921-22M GR/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22M Pad Surface Use Plan of Operations 10 of 11

#### L. Other Information:

#### **Onsite Specifics:**

- Round corner #10
- Arch and Paleo monitoring during construction.
- Divert drainage from east to west.

#### **Cultural and Paleontological Resources**

All personnel are strictly prohibited from collecting artifacts, any paleontological specimens or fossils, and from disturbing any significant cultural resources in the area. If artifacts, fossils, or any culturally sensitive materials are exposed or identified in the area of construction, all construction operations that would affect the newly discovered resource will cease, and Kerr-McGee will provide immediate notification to the BIA.

#### **Resource Reports:**

A Class I literature survey was completed in December, 2011 by Montgomery Archaeological Consultants, Inc (MOAC). For additional details please refer to report MOAC 11-406.

A paleontological reconnaissance survey was completed on August 12, 2010 by SWCA Environmental Consultants. For additional details please refer to report UT11-14314-121.

Biological field survey was completed on August 8 and 16, 2011 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-572.

#### **Proposed Action Annual Emissions Tables:**

Table 1: Proposed Action Annual Emissions (tons/year) <sup>1</sup>							
Pollutant	Development	Production	Total				
NOx	3.8	0.12	3.92				
CO	2.2	0.11	2.31				
VOC	0.1	4.9	5				
SO <sub>2</sub>	0.005	0.0043	0.0093				
$PM_{10}$	1.7	0.11	1.81				
PM <sub>2.5</sub>	0.4	0.025	0.425				
Benzene	2.2E-03	0.044	0.046				
Toluene	1.6E-03	0.103	0.105				
Ethylbenzene	3.4E-04	0.005	0.005				
Xylene	1.1E-03	0.076	0.077				
n-Hexane	1.7E-04	0.145	0.145				
Formaldehyde	1.3E-02	8.64E-05	1.31E-02				

 $<sup>\</sup>overline{\ }^{1}$  Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison			
	Proposed Action Production Emissions	WRAP Phase III 2012 Uintah Basin Emission	to WRAP Phase
Species	(ton/yr)	Inventory <sup>a</sup> (ton/yr)	III
NOx	19.6	16,547	0.12%
VOC	25	127,495	0.02%

a http://www.wrapair.org/forums/ogwg/PhaseIII\_Inventory.html

Uintah Basin Data

NBU 921-22M GR/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22M Pad Surface Use Plan of Operations 11 of 11

#### M. Lessee's or Operators' Representative & Certification:

Laura Abrams Regulatory Analyst II Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6356 Tommy Thompson General Manager, Drilling Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

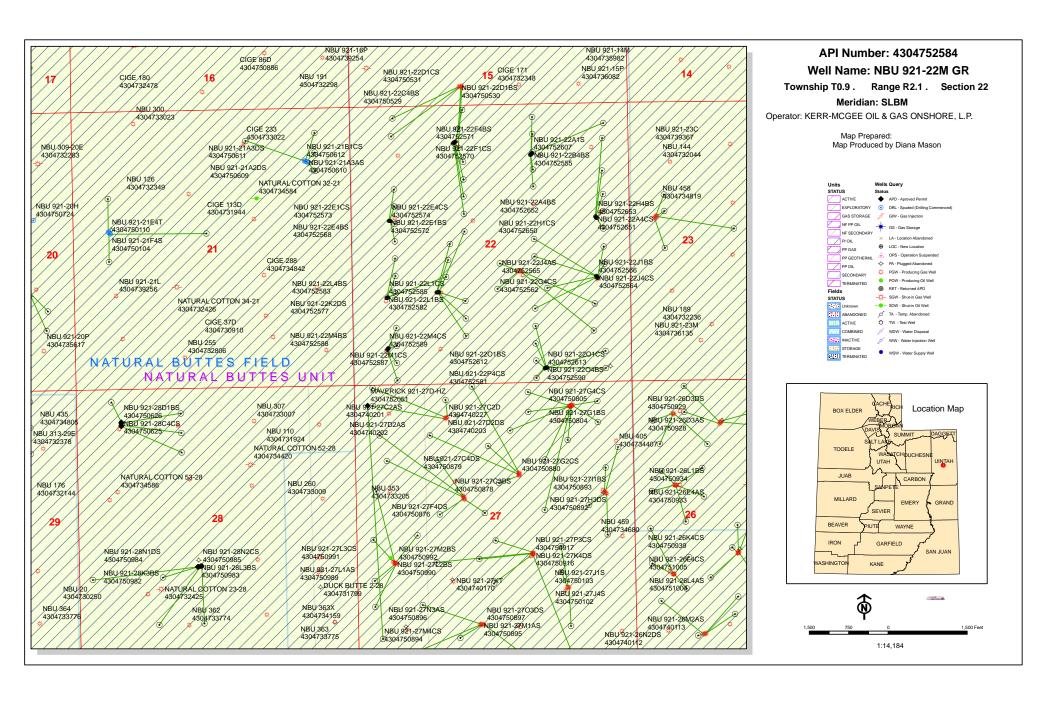
The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filling of false statements.

Laura Abrams December 21, 2011
Date



# **WORKSHEET** APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 5/1/2012 API NO. ASSIGNED: 43047525840000

WELL NAME: NBU 921-22M GR

OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995) PHONE NUMBER: 720 929-6356

**CONTACT:** Laura Abrams

PROPOSED LOCATION: SWSW 22 090S 210E **Permit Tech Review:** 

> SURFACE: 0711 FSL 0671 FWL Engineering Review:

> BOTTOM: 0711 FSL 0671 FWL Geology Review:

**COUNTY: UINTAH** 

**LATITUDE**: 40.01619 LONGITUDE: -109.54485 UTM SURF EASTINGS: 624184.00 NORTHINGS: 4430569.00

FIELD NAME: NATURAL BUTTES LEASE TYPE: 1 - Federal

LEASE NUMBER: UTU 010950-A PROPOSED PRODUCING FORMATION(S): WASATCH

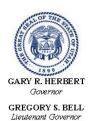
SURFACE OWNER: 2 - Indian **COALBED METHANE: NO** 

**RECEIVED AND/OR REVIEWED: LOCATION AND SITING:** ✓ PLAT R649-2-3. Unit: NATURAL BUTTES Bond: FEDERAL - WYB000291 **Potash** R649-3-2. General ✓ Oil Shale 190-5 Oil Shale 190-3 R649-3-3. Exception **Drilling Unit** Oil Shale 190-13 Board Cause No: Cause 173-14 Water Permit: 43-8496 Effective Date: 12/2/1999 **RDCC Review:** Siting: Suspends General Siting Fee Surface Agreement Intent to Commingle R649-3-11. Directional Drill **Commingling Approved** 

Comments: Presite Completed

Stipulations:

4 - Federal Approval - dmason 17 - Oil Shale 190-5(b) - dmason



# State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

# Permit To Drill

\*\*\*\*\*

Well Name: NBU 921-22M GR API Well Number: 43047525840000 Lease Number: UTU 010950-A

Surface Owner: INDIAN Approval Date: 6/18/2012

#### Issued to:

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

### Authority:

Pursuant to Utah Code Ann. 40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

#### **Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

#### General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

# **Conditions of Approval:**

State approval of this well does not supercede the required federal approval, which must be obtained prior to drilling.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

# **Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

• Within 24 hours following the spudding of the well - contact Carol Daniels at 801-538-5284

(please leave a voicemail message if not available) OR

submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website

at http://oilgas.ogm.utah.gov

## Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) due within 5 days of spudding the well
- Monthly Status Report (Form 9) due by 5th day of the following calendar month
  - Requests to Change Plans (Form 9) due prior to implementation
  - Written Notice of Emergency Changes (Form 9) due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) due prior to implementation
  - Report of Water Encountered (Form 7) due within 30 days after completion
- Well Completion Report (Form 8) due within 30 days after completion or plugging

Approved By:

For John Rogers Associate Director, Oil & Gas

**UNITED STATES** 

JAN 1 0 2012

FORM APPROVED OMB No. 1004-0136 Expires July 31, 2010

DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

5.	Lease Serial No.
	UTU010950A

	BLW, Vernal Utah	UTU010950A		
APPLICATION FOR PERMIT	6. If Indian, Allottee or Tribe	Name		
1a. Type of Work: 🛛 DRILL 🔲 REENTER		7. If Unit or CA Agreement, UTU63047A	Name and No.	
1b. Type of Well: ☐ Oil Well   ☑ Gas Well ☐ Otl	ner ⊠ Single Zone □ Multiple Zone	8. Lease Name and Well No. NBU 921-22M GR		
2. Name of Operator Contact: KERR MCGEE OIL&GAS ONSHORE NailPLaura.A	I AURA ABRAMS	9. API Well No.	4	
3a. Address PO BOX 173779 DENVER, CO 80202-3779	3b. Phone No. (include area code) Ph: 720-929-6356 Fx: 720-929-7356	10. Field and Pool, or Explor NATURAL BUTTES	atory	
4. Location of Well (Report location clearly and in accorda	nce with any State requirements.*)	11. Sec., T., R., M., or Blk. at	nd Survey or Area	
	0.016284 N Lat, 109.544950 W Lon	Sec 22 T9S R21E Me	-	
At proposed prod. zone SWSW 711FSL 671FWL 4				
<ol> <li>Distance in miles and direction from nearest town or post APPROXIMATELY 43.5 MILES SOUTH OF VEI</li> </ol>	office* RNAL, UT	12. County or Parish UINTAH	13. State UT	
<ol> <li>Distance from proposed location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)</li> <li>671'</li> </ol>	16. No. of Acres in Lease 800.00	17. Spacing Unit dedicated to	this well	
18. Distance from proposed location to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. on file		
56'	5000 MD 5000 TVD	WYB000291		
21. Elevations (Show whether DF, KB, RT, GL, etc. 4906 GL	22. Approximate date work will start 06/30/2012	23. Estimated duration 60-90 DAYS		
	24. Attachments			
The following, completed in accordance with the requirements of	Onshore Oil and Gas Order No. 1, shall be attached to the	nis form:		
<ol> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is on National Forest System SUPO shall be filed with the appropriate Forest Service Off</li> </ol>	Item 20 above).  Em Lands, the 5. Operator certification	ns unless covered by an existing ormation and/or plans as may be	•	
25. Signature (Electronic Submission)	Name (Printed/Typed) LAURA ABRAMS Ph: 720-929-6356		Date 12/21/2011	
Title REGULATORY ANALYST II				
Approved by (Signature)	Name (Printed/Typed)  Jerry Kenczka		JUN 0 5 2012	
Title Assistant field Manager Lands & Mineral Resources	Office VERNAL FIELD OFFICE			
Application approval does not warrant or certify the applicant holoperations thereon.  Conditions of approval, if any, are attached.	ds legal or equitable title to those rights in the subject lea ONDITIONS OF APPROVAL ATTACHE		cant to conduct	
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, m States any false, fictitious or fraudulent statements or representati	ake it a crime for any person knowingly and willfully to ons as to any matter within its jurisdiction.	make to any department or agen	cy of the United	
Additional Operator Remarks (see next page)				

Electronic Submission #126470 verified by the BLM Well Information System For KERR MCGEE OIL&GAS ONSHORE, LP, sent to the Vernal

RECEIVED JUL 0 3 2012 DIV. OF OIL, GAS & MINING

\*\* OPERATOR-SUBMITTED \*\* OPERATOR-SUBMITTED \*\*

12RRH131TAE

NOTICE OF APPROVAL

NO 1/mx



## UNITED STATES DEPARTMENT OF THE INTERIOR **BUREAU OF LAND MANAGEMENT VERNAL FIELD OFFICE**

**VERNAL, UT 84078** 

(435) 781-4400



## CONDITIONS OF APPROVAL FOR APPLICATION FOR PERMIT TO DRILL

Company: Well No:

Kerr McGee Oil & Gas Onshore, LP

**NBU 921-22M GR** 

API No: 43-047-52584 Location:

SWSW, Sec. 22, T9S, R21E

Lease No: UTU-010950A

Agreement: **Natural Butte** 

OFFICE NUMBER:

(435) 781-4400

**OFFICE FAX NUMBER: (435) 781-3420** 

## A COPY OF THESE CONDITIONS SHALL BE FURNISHED TO YOUR FIELD REPRESENTATIVE TO INSURE COMPLIANCE

All lease and/or unit operations are to be conducted in such a manner that full compliance is made with the applicable laws, regulations (43 CFR Part 3160), and this approved Application for Permit to Drill including Surface and Downhole Conditions of Approval. The operator is considered fully responsible for the actions of his subcontractors. A copy of the approved APD must be on location during construction, drilling, and completion operations. This permit is approved for a two (2) year period, or until lease expiration, whichever occurs first. An additional extension, up to two (2) years, may be applied for by sundry notice prior to expiration.

### **NOTIFICATION REQUIREMENTS**

Construction Activity (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	_	The Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist shall be notified at least 48 hours in advance of any construction activity. The Ute Tribal office is open Monday through Thursday.
Construction Completion (Notify Ute Tribe Energy & Minerals Dept. and BLM Environmental Scientist)	-	Upon completion of the pertinent APD/ROW construction, notify the Ute Tribe Energy & Minerals Dept. for a Tribal Technician to verify the Affidavit of Completion. Notify the BLM Environmental Scientist prior to moving on the drilling rig.
Spud Notice (Notify BLM Petroleum Engineer)	-	Twenty-Four (24) hours prior to spudding the well.
Casing String & Cementing (Notify BLM Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to running casing and cementing all casing strings to:blm_ut_vn_opreport@blm.gov.
BOP & Related Equipment Tests (Notify BLM Supv. Petroleum Tech.)	-	Twenty-Four (24) hours prior to initiating pressure tests.
First Production Notice (Notify BLM Petroleum Engineer)	-	Within Five (5) business days after new well begins or production resumes after well has been off production for more than ninety (90) days.

Page 2 of 6 Well: NBU 921-22M GR 6/1/2012

## SURFACE USE PROGRAM CONDITIONS OF APPROVAL (COAs)

- Paint facilities "Shadow Gray"
- Conduct a raptor survey prior to construction operation if such activates would take place during raptor nesting season (January 1- September 30). If active raptor nests are identified during the survey, operations should be conducted according to the seasonal restrictions detailed in the Uinta Basin-specific RMP guidelines and spatial offsets specified by the USFWS Utah
- If construction and/or drilling operations have not been initiated prior to August 8, 2012, conduct
  a biological survey to determine the guidelines specified in the USFWS Rare Plant Conservation
  Measures and the BLM RMP ROD. KMG will implement commitment contained in the GNB BO.
- Monitor construction operation with a permitted archaeologist.
- Monitor construction operation with a permitted paleontologist.
- Route drainage from east to west
- Round corner #10

## Pipeline Route from North Compressor to West Cottonwood Compressor

- If construction and/or drilling operations have not been initiated prior to August 8, 2012, conduct
  a biological survey to determine the guidelines specified in the USFWS Rare Plant Conservation
  Measures and the BLM RMP ROD. KMG will implement commitment contained in the GNB BO.
- Monitor areas with a permitted paleontologist where pipeline travels through Sections 15, 16,
   17, and 22. Monitor section 27 at the beginning of construction and spot monitor thereafter.

### **ACTS line**

- If construction and/or drilling operations have not been initiated prior to August 8, 2012, conduct
  a biological survey to determine the guidelines specified in the USFWS Rare Plant Conservation
  Measures and the BLM RMP ROD. KMG will implement commitment contained in the GNB BO.
- Monitor areas with a permitted paleontologist where ACTS line travels through Section 15 SWSE, and Section 22 NWNE, NENW, SWSW, and SWSE.

Page 3 of 6 Well: NBU 921-22M GR 6/1/2012

# DOWNHOLE PROGRAM CONDITIONS OF APPROVAL (COAs)

### SITE SPECIFIC DOWNHOLE COAs:

- Surface casing cement shall be brought to surface.
- Production casing cement shall be brought 400' up and into the surface casing.

All provisions outlined in Onshore Oil & Gas Order #2 Drilling Operations shall be strictly adhered to. The following items are emphasized:

### DRILLING/COMPLETION/PRODUCING OPERATING STANDARDS

- The spud date and time shall be reported orally to Vernal Field Office within 24 hours of spudding.
- Notify Vernal Field Office Supervisory Petroleum Engineering Technician at least 24 hours in advance of casing cementing operations and BOPE & casing pressure tests.
- All requirements listed in Onshore Order #2 III. E. Special Drilling Operations are applicable for air drilling of surface hole.
- Blowout prevention equipment (BOPE) shall remain in use until the well is completed or abandoned. Closing unit controls shall remain unobstructed and readily accessible at all times. Choke manifolds shall be located outside of the rig substructure.
- All BOPE components shall be inspected daily and those inspections shall be recorded in the
  daily drilling report. Components shall be operated and tested as required by Onshore Oil &
  Gas Order No. 2 to insure good mechanical working order. All BOPE pressure tests shall be
  performed by a test pump with a chart recorder and NOT by the rig pumps. Test shall be
  reported in the driller's log.
- BOP drills shall be initially conducted by each drilling crew within 24 hours of drilling out from under the surface casing and weekly thereafter as specified in Onshore Oil & Gas Order No. 2.
- Casing pressure tests are required before drilling out from under all casing strings set and cemented in place.
- No aggressive/fresh hard-banded drill pipe shall be used within casing.
- Cement baskets shall not be run on surface casing.
- The operator must report all shows of water or water-bearing sands to the BLM. If flowing water
  is encountered it must be sampled, analyzed, and a copy of the analyses submitted to the BLM
  Vernal Field Office.
- The operator must report encounters of all non oil & gas mineral resources (such as Gilsonite, tar sands, oil shale, trona, etc.) to the Vernal Field Office, in writing, within 5 working days of

Page 4 of 6 Well: NBU 921-22M GR 6/1/2012

each encounter. Each report shall include the well name/number, well location, date and depth (from KB or GL) of encounter, vertical footage of the encounter and, the name of the person making the report (along with a telephone number) should the BLM need to obtain additional information.

- A complete set of angular deviation and directional surveys of a directional well will be submitted to the Vernal BLM office engineer within 30 days of the completion of the well.
- While actively drilling, chronologic drilling progress reports shall be filed directly with the BLM,
   Vernal Field Office on a weekly basis in sundry, letter format or e-mail to the Petroleum
   Engineers until the well is completed.
- A cement bond log (CBL) will be run from the production casing shoe to the top of cement and shall be utilized to determine the bond quality for the production casing. Submit a field copy of the CBL to this office.
- Please submit an electronic copy of all other logs run on this well in LAS format to BLM\_UT\_VN\_Welllogs@BLM.gov. This submission will supersede the requirement for submittal of paper logs to the BLM.
- There shall be no deviation from the proposed drilling, completion, and/or workover program as approved. Safe drilling and operating practices must be observed. Any changes in operation must have prior approval from the BLM Vernal Field Office.

Page 5 of 6 Well: NBU 921-22M GR 6/1/2012

#### **OPERATING REQUIREMENT REMINDERS:**

- All wells, whether drilling, producing, suspended, or abandoned, shall be identified in accordance with 43 CFR 3162.6. There shall be a sign or marker with the name of the operator, lease serial number, well number, and surveyed description of the well.
- For information regarding production reporting, contact the Office of Natural Resources Revenue (ONRR) at <a href="https://www.ONRR.gov">www.ONRR.gov</a>.
- Should the well be successfully completed for production, the BLM Vernal Field office must be
  notified when it is placed in a producing status. Such notification will be by written
  communication and must be received in this office by not later than the fifth business day
  following the date on which the well is placed on production. The notification shall provide, as a
  minimum, the following informational items:
  - Operator name, address, and telephone number.
  - o Well name and number.
  - Well location (¼¼, Sec., Twn, Rng, and P.M.).
  - Date well was placed in a producing status (date of first production for which royalty will be paid).
  - The nature of the well's production, (i.e., crude oil, or crude oil and casing head gas, or natural gas and entrained liquid hydrocarbons).
  - The Federal or Indian lease prefix and number on which the well is located; otherwise the non-Federal or non-Indian land category, i.e., State or private.
  - Unit agreement and/or participating area name and number, if applicable.
  - Communitization agreement number, if applicable.
- Any venting or flaring of gas shall be done in accordance with Notice to Lessees (NTL) 4A and needs prior approval from the BLM Vernal Field Office.
- All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in NTL 3A will be reported to the BLM, Vernal Field Office. Major events, as defined in NTL3A, shall be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days. "Minor Events" will be reported on the Monthly Report of Operations and Production.
- Whether the well is completed as a dry hole or as a producer, "Well Completion and Recompletion Report and Log" (BLM Form 3160-4) shall be submitted not later than 30 days after completion of the well or after completion of operations being performed, in accordance with 43 CFR 3162.4-1. Two copies of all logs run, core descriptions, and all other surveys or data obtained and compiled during the drilling, workover, and/or completion operations, shall be filed on BLM Form 3160-4. Submit with the well completion report a geologic report including, at a minimum, formation tops, and a summary and conclusions. Also include deviation surveys, sample descriptions, strip logs, core data, drill stem test data, and results of production tests if

Page 6 of 6 Well: NBU 921-22M GR 6/1/2012

performed. Samples (cuttings, fluid, and/or gas) shall be submitted only when requested by the BLM, Vernal Field Office.

- All off-lease storage, off-lease measurement, or commingling on-lease or off-lease, shall have prior written approval from the BLM Vernal Field Office.
- Oil and gas meters shall be calibrated in place prior to any deliveries. The BLM Vernal Field
  Office Petroleum Engineers will be provided with a date and time for the initial meter calibration
  and all future meter proving schedules. A copy of the meter calibration reports shall be
  submitted to the BLM Vernal Field Office. All measurement facilities will conform to the API
  standards for liquid hydrocarbons and the AGA standards for natural gas measurement. All
  measurement points shall be identified as the point of sale or allocation for royalty purposes.
- A schematic facilities diagram as required by Onshore Oil & Gas Order No. 3 shall be submitted
  to the BLM Vernal Field Office within 30 days of installation or first production, whichever occurs
  first. All site security regulations as specified in Onshore Oil & Gas Order No. 3 shall be
  adhered to. All product lines entering and leaving hydrocarbon storage tanks will be effectively
  sealed in accordance with Onshore Oil & Gas Order No. 3.
- Any additional construction, reconstruction, or alterations of facilities, including roads, gathering lines, batteries, etc., which will result in the disturbance of new ground, shall require the filing of a suitable plan and need prior approval of the BLM Vernal Field Office. Emergency approval may be obtained orally, but such approval does not waive the written report requirement.
- No location shall be constructed or moved, no well shall be plugged, and no drilling or workover
  equipment shall be removed from a well to be placed in a suspended status without prior
  approval of the BLM Vernal Field Office. If operations are to be suspended for more than 30
  days, prior approval of the BLM Vernal Field Office shall be obtained and notification given
  before resumption of operations.
- Pursuant to Onshore Oil & Gas Order No. 7, this is authorization for pit disposal of water produced from this well for a period of 90 days from the date of initial production. A permanent disposal method must be approved by this office and in operation prior to the end of this 90-day period. In order to meet this deadline, an application for the proposed permanent disposal method shall be submitted along with any necessary water analyses, as soon as possible, but no later than 45 days after the date of first production. Any method of disposal which has not been approved prior to the end of the authorized 90-day period will be considered as an Incident of Noncompliance and will be grounds for issuing a shut-in order until an acceptable manner for disposing of said water is provided and approved by this office.
- Unless the plugging is to take place immediately upon receipt of oral approval, the Field Office Petroleum Engineers must be notified at least 24 hours in advance of the plugging of the well, in order that a representative may witness plugging operations. If a well is suspended or abandoned, all pits must be fenced immediately until they are backfilled. The "Subsequent Report of Abandonment" (Form BLM 3160-5) must be submitted within 30 days after the actual plugging of the well bore, showing location of plugs, amount of cement in each, and amount of casing left in hole, and the current status of the surface restoration.

SUBMIT AS EMAIL Print Form

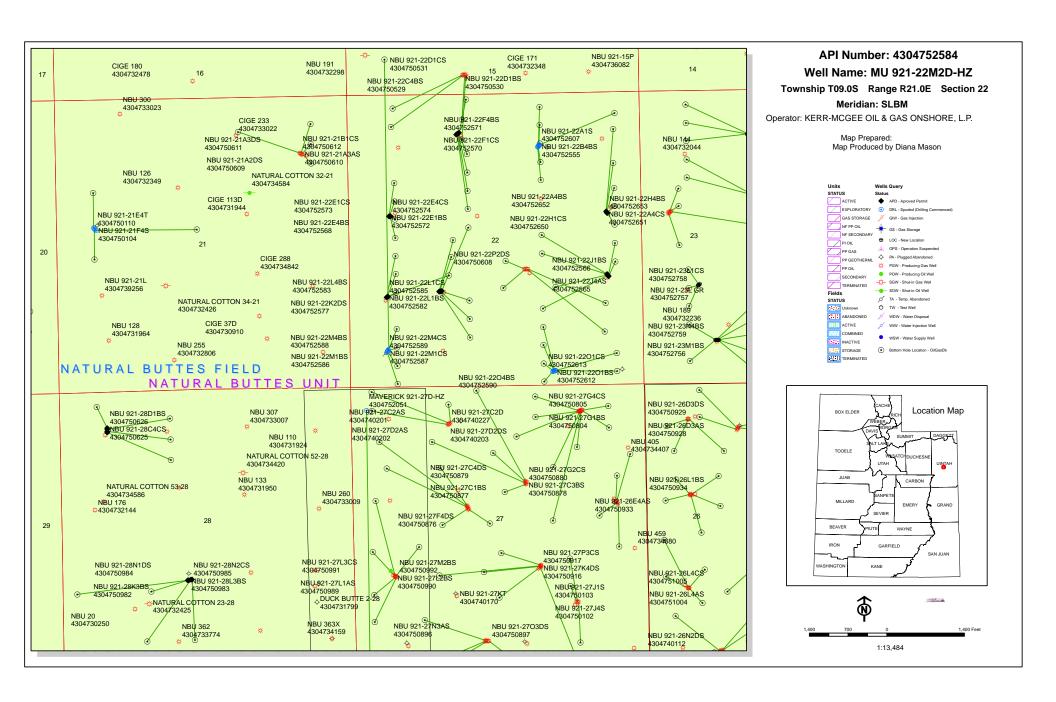
# **BLM** - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG										
Submitted By J. Scharnowske Phone Number 720.929.6304										
	Well Name/Number 921-22M2D-HZ									
	Qtr/Qtr <u>swsw</u> Section <u>22</u> Township <u>9s</u> Range <u>21E</u>									
	e Serial Number <u>UTU010950</u>	Α	···-							
API I	Number <u>4304752584</u>									
-	<u>d Notice</u> – Spud is the initial below a casing string.	spudding o	of the we	ll, not drilling						
	Date/Time <u>08/18/2012</u>	15:00 HRS	АМ 🗌	РМ						
Casii time ✓	ng – Please report time casi s. Surface Casing Intermediate Casing Production Casing Liner Other	ng run starl	ts, not ce	ementing						
	Date/Time <u>09/11/2012</u>	08:00 HRS	АМ 🗌	РМ						
BOP	E			RECEIVED						
	 Initial BOPE test at surface	casing poir	nt	AUG 1 7 2012						
	BOPE test at intermediate	casing point	t							
	30 day BOPE test Other			DIV. OF OIL, GAS & MINIMG						
	Date/Time		AM 🗌	PM T						
Rem	arks estimated date and time. PLEA	SE CONTACT KENN	Y GATHINGS	AT						
435.82	8.0986 OR LOVEL YOUNG AT 435.781.705	51								

	FORM 9						
ı	DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING	3	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 010950-A				
SUNDR	WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute In					
	posals to drill new wells, significantly deep reenter plugged wells, or to drill horizontal I n for such proposals.		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES				
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: MU 921-22M2D-HZ				
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047525840000				
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	PHO n Street, Suite 600, Denver, CO, 80217 377	NE NUMBER: 9 720 929-6	9. FIELD and POOL or WILDCAT: 5NATUERAL BUTTES				
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0711 FSL 0671 FWL			COUNTY: UINTAH				
QTR/QTR, SECTION, TOWNSH	HP, RANGE, MERIDIAN: 22 Township: 09.0S Range: 21.0E Meridian:	s	STATE: UTAH				
11. CHECI	K APPROPRIATE BOXES TO INDICATE N	ATURE OF NOTICE, REPOR	T, OR OTHER DATA				
TYPE OF SUBMISSION		TYPE OF ACTION					
_	ACIDIZE A	ALTER CASING	CASING REPAIR				
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME				
SUBSEQUENT REPORT	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE				
Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION				
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK				
SPUD REPORT Date of Spud:	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION				
Date of opau.	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON				
	TUBING REPAIR	/ENT OR FLARE	WATER DISPOSAL				
DRILLING REPORT Report Date:	☐ water shutoff ☐ s	SI TA STATUS EXTENSION	APD EXTENSION				
8/18/2012	WILDCAT WELL DETERMINATION	DTHER	OTHER:				
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  MIRU TRIPLE A BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'.  RAN 14" 36.7# SCHEDULE 10 CONDUCTOR PIPE. CEMENT WITH 28  SACKS READY MIX. SPUD WELL LOCATION ON AUGUST 18, 2012 AT  07:00 HRS.  O7:00 HRS.  O7:00 HRS.							
NAME (PLEASE PRINT) Jaime Scharnowske	<b>PHONE NUMBER</b> 720 929-6304	TITLE Regulartory Analyst					
SIGNATURE	720 020-0304	DATE					
N/A		8/23/2012					

# Sundry Number: 28135 API Well Number: 43047525840000 FEDERAL APPROVAL OF THIS ACTION IS NECESSARY

	STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES		FORM 9
ι	IG	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 010950-A	
SUNDR	Y NOTICES AND REPORTS OF	N WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute In
Do not use this form for pro current bottom-hole depth, I FOR PERMIT TO DRILL form	posals to drill new wells, significantly de- reenter plugged wells, or to drill horizonta n for such proposals.	epen existing wells below Il laterals. Use APPLICATION	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: MU 921-22M2D-HZ
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047525840000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	PI n Street, Suite 600, Denver, CO, 80217 3	HONE NUMBER: 779 720 929-6	9. FIELD and POOL or WILDCAT: 5NATURAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0711 FSL 0671 FWL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	<b>IIP, RANGE, MERIDIAN:</b> 22 Township: 09.0S Range: 21.0E Meridial	n: S	STATE: UTAH
11. CHECH	K APPROPRIATE BOXES TO INDICATE	NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	✓ CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
7/27/2012	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT	DEEPEN	FRACTURE TREAT	☐ NEW CONSTRUCTION
Date of Work Completion:	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
SPUD REPORT Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
Julio di Opular		1	
	L TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT Report Date:	L WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
	WILDCAT WELL DETERMINATION	OTHER	OTHER:
	COMPLETED OPERATIONS. Clearly show all I		A CAPTE STATE OF THE STATE OF T
	as Onshore, L.P. (Kerr-McGee	· · ·	Approved by the Utah Division of
	<mark>vell from a vertical to a horizor</mark> ation: Well Name FROM: NBU		Oil, Gas and Mining
	tom Hole FROM: 711 FSL 671		Date: August 28, 2012
l .	690 FWL Section 15 T9S R21E		Date: August 28, 2012
Surface Hole Locat	ion did not change. See the at	tached revised plats,	By: Dady
,	orogram for additional informa	_	33
well is in the Ma	averick Unit UTU88574X. Appr	oval of Order No.	
	197-013 on July 25, 2012.		
NAME (DI SACE PRINT)	Buoke with a	TITLE	
NAME (PLEASE PRINT) Cara Mahler	<b>PHONE NUMBER</b> 720 929-6029	TITLE Regulatory Analyst I	
SIGNATURE		DATE	
N/A		7/27/2012	



From: "Mahler, Cara" < Cara. Mahler@anadarko.com>
To: "dianawhitney@utah.gov" < dianawhitney@utah.gov>

**Date:** 8/23/2012 12:33 PM

Subject: RE: Sundry For API Well Number 43047525840000

Hi Diana-

This Well is being changed from a vertical Green River Well to a Horizontal Green River Well.

If you need more information let me know.

Thanks! Cara Mahler

----Original Message-----

From: dianawhitney@utah.gov [mailto:dianawhitney@utah.gov]

Sent: Thursday, August 23, 2012 11:02 AM

To: Mahler, Cara

Subject: Sundry For API Well Number 43047525840000

Notice of Intent: CHANGE\_TO\_PREVIOUS\_PLANS API Number: 43047525840000

Operator: KERR-MCGEE OIL & GAS ONSHORE, L.P.

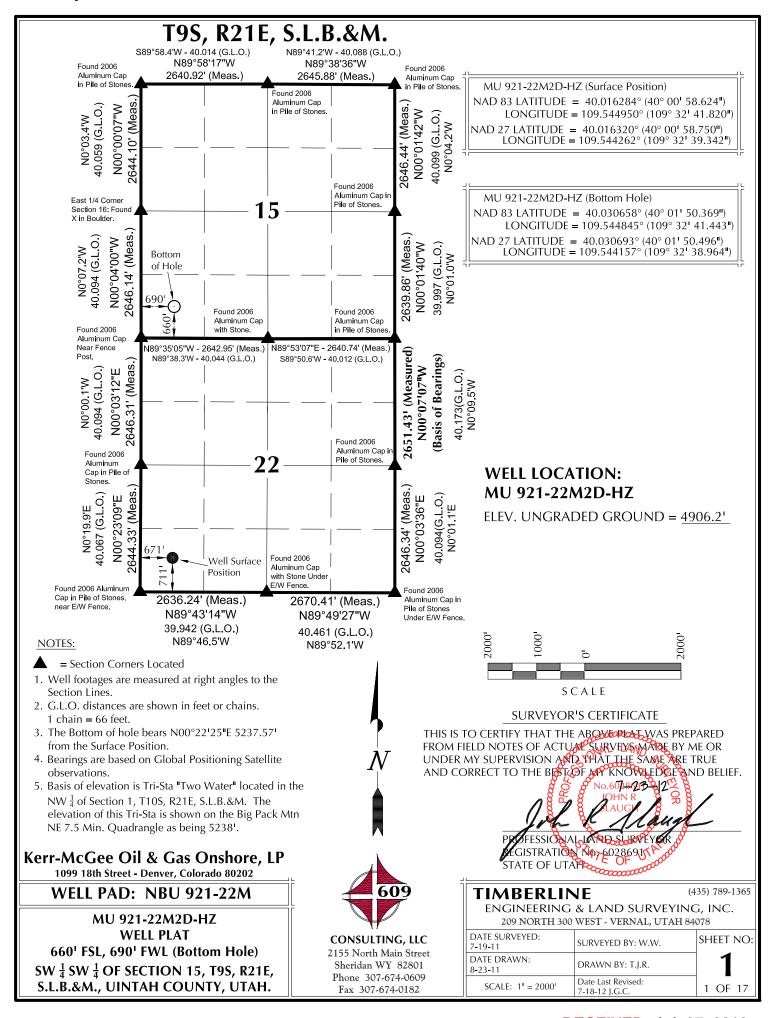
You wrote this on the sundry:

This well is in the Maverick Unit UTU88574X. Approval of Order No. 197-013 on July 25, 2012.

But that order is for the Green River formation. It looks like Kerr McGee is drilling to the Wasatch. Please verify.

Anadarko Confidentiality Notice: This electronic transmission and any attached documents or other writings are intended only for the person or entity to which it is addressed and may contain information that is privileged, confidential or otherwise protected from disclosure. If you have received this communication in error, please immediately notify sender by return e-mail and destroy the communication. Any disclosure, copying, distribution or the taking of any action concerning the contents of this communication or any attachments by anyone other than the named recipient is strictly prohibited.

	OTATE OF LITAL		FORM 9					
	STATE OF UTAH DEPARTMENT OF NATURAL RESOURCE	:S	S. E. S. DEGIONATION AND SERVICE NUMBER					
[	DIVISION OF OIL, GAS, AND MINI	NG	5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 010950-A					
SUNDR	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute In						
Do not use this form for pro current bottom-hole depth, I FOR PERMIT TO DRILL form	posals to drill new wells, significantly d reenter plugged wells, or to drill horizon n for such proposals.	eepen existing wells below tal laterals. Use APPLICATION	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES					
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-22M GR					
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		<b>9. API NUMBER:</b> 43047525840000					
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 3779 720 929-6	9. FIELD and POOL or WILDCAT: 5NIATUERAL BUTTES					
4. LOCATION OF WELL			COUNTY:					
FOOTAGES AT SURFACE: 0711 FSL 0671 FWL			UINTAH					
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: SWSW Section: 2	IIP, RANGE, MERIDIAN: 22 Township: 09.0S Range: 21.0E Meridi	an: S	STATE: UTAH					
11. CHECI	K APPROPRIATE BOXES TO INDICATE	E NATURE OF NOTICE, REPOR	T, OR OTHER DATA					
TYPE OF SUBMISSION		TYPE OF ACTION						
	ACIDIZE	ALTER CASING	CASING REPAIR					
Approximate date work will start:	✓ CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME					
7/27/2012	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE					
SUBSEQUENT REPORT	DEEPEN [	FRACTURE TREAT	NEW CONSTRUCTION					
Date of Work Completion:	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK					
	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION					
SPUD REPORT Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON					
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL					
DRILLING REPORT	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION					
Report Date:	WILDCAT WELL DETERMINATION	OTHER	OTHER:					
12 DESCRIBE PROPOSED OR		I nertinent details including dates d	enths volumes etc					
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.  Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests to change the well from a vertical to a horizontal as well as the following information: Well Name FROM: NBU 921-22M TO: MU 921-22M2D-HZ Bottom Hole FROM: 711 FSL 671 FWL Section 22 T9S R21E TO: 660 FSL 690 FWL Section 15 T9S R21E Please note that the Surface Hole Location did not change. See the attached revised plats, SUPO and drilling program for additional information. Thank you.								
NAME (PLEASE PRINT)	PHONE NUMBE							
Cara Mahler	720 929-6029	Regulatory Analyst I						
<b>SIGNATURE</b> N/A		<b>DATE</b> 7/27/2012						



Kerr-McGee Oil & Gas Onshore, LP WELL PAD - NBU 921-22M WELLS – NBU 921-22M2D-HZ, NBU 921-22M1BS, NBU 921-22M1CS, NBU 921-22M4BS & NBU 921-22M4CS Section 22, T9S, R21E, S.L.B.&M.

From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 17.7 miles to a Class D County Road to the southwest. Exit right and proceed in a southwesterly direction along the Class D County Road approximately 1.8 miles to a second Class D County Road to the north. Exit right and proceed in a northerly direction along the second Class D County Road approximately 0.5 miles to a service road to the southwest. Exit left and proceed in a southwesterly direction along the service road approximately 220 Feet to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 43.5 miles in a southerly direction.

SHEET 17 OF 17

MU 921-22M2D-HZ Drilling Program
1 of 7

### Kerr-McGee Oil & Gas Onshore. L.P.

#### MU 921-22M2D-HZ

Surface: 711 FSL / 671 FWL SWSW

BHL: 660 FSL / 690 FWL SWSW Section 15

Section 22 T9S R21E

Unitah County, Utah Mineral Lease: UTU 010950-A

#### **ONSHORE ORDER NO. 1**

#### **DRILLING PROGRAM**

### 1. & 2. <u>Estimated Tops of Important Geologic Markers</u>: <u>Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations</u>:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1570	Water
Birds Nest	1860	Water
Mahogany	2386	Water
Uteland Butte	4876	Oil/Gas
TVD	5042	
TMD	9889	

### 3. <u>Pressure Control Equipment</u> (Schematic Attached)

Please refer to the attached Drilling Program

#### 4. <u>Proposed Casing & Cementing Program:</u>

Please refer to the attached Drilling Program

### 5. <u>Drilling Fluids Program</u>:

Please refer to the attached Drilling Program

#### 6. <u>Evaluation Program</u>:

Please refer to the attached Drilling Program

MU 921-22M2D-HZ Drilling Program 2 of 7

#### 7. <u>Abnormal Conditions</u>:

Maximum anticipated bottom hole pressure calculated at 2,175 psi 5042' TVD, approximately equals

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 1,069 psi (bottom hole pressure minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point))

#### **8.** Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

#### 9. <u>Variances:</u>

Please refer to the attached Drilling Program. Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- · Blowout Prevention Equipment (BOPE) requirements;
- · Mud program requirements; and
- · Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

#### **Background**

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may

MU 921-22M2D-HZ Drilling Program
3 of 7

be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

#### Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

#### **Variance for Mud Material Requirements**

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

#### Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and

on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

MU 921-22M2D-HZ Drilling Program 4 of 7

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

#### Variance for FIT Requirements

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

#### Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

### 10. Other Information:

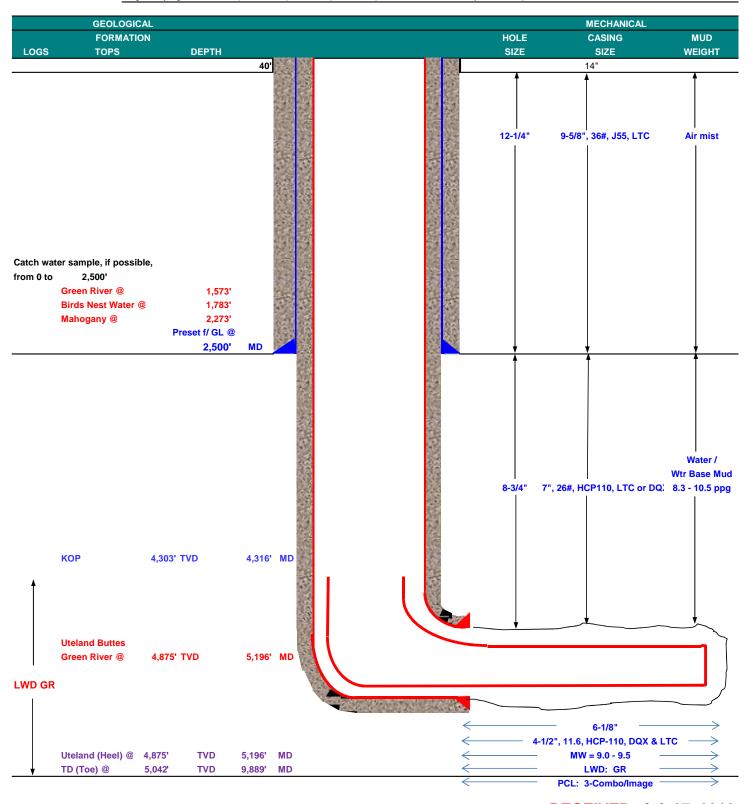
Please refer to the attached Drilling Program.

MU 921-22M2D-HZ Drilling Program
1 of 3

# KerrMcGee

# Kerr McGee Oil and Gas Onshore LP DRILLING PROGRAM

DATE **COMPANY NAME** Kerr McGee Oil and Gas Onshore LP July 27, 2012 WELL NAME MU 921-22M2D-HZ TVD 5,042' 9,889' MD KB 4' **FIELD** Natural Buttes **COUNTY Uintah** STATE Utah **ELEVATION** 4,906' GL KB 4,910' SURFACE LOCATION SWSW Section 22 T9S R21E 711 FSL / 671 FWL BTM HOLE LOCATION SWSW Section 15 T9S R21E 660 FSL / 690 FWL Surface 40.016284 109.544950 **NAD 83** Longitude: BHL Latitude: 40.030658 Longitude: 109.544845 **NAD 83** OBJECTIVE ZONE(S) Uteland Buttes--Green River ADDITIONAL INFO Regulatory Agencies: BLM (MINERALS), TRIBAL (SURFACE) and UDOGM Tri-County Health Dept.



MU 921-22M2D-HZ

Kerr McGee Oil and Gas Onshore LP

DRILLING PROGRAM

Drilling Program 2 of 3

#### CASING PROGRAM

								DESIGN FACTORS		
	SIZE	INTE	RVAL		WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-	40'							
								3520	2020	453000
SURFACE	9-5/8"	0	to	2,500'	36.00	J55	LTC	2.55**	1.73	5.84
								9950	7800	278000
INTERMEDIATE	7"	0	to	5,196'	26.00	HCP-110	LTC	3.99	3.13	2.57
								10690	8650	367000
PRODUCTION	4-1/2"	4,216'	to	5,196'	11.60	HCP-110	DQX	52.79	3.47	5.02
								10690	8650	279000
	4-1/2"	5,196'	to	9,889'	11.60	HCP-110	LTC	>100	3.47	5.13

- 1) Max Anticipated Surf. Press.(MASP) (Surface Casing) = (Pore Pressure at next csg point-(0.22 psi/ft-partial evac gradient x TVD of next csg point)
- 2) MASP (Prod Casing) = Pore Pressure at TD (.22 psi/ft-partial evac gradient x TD)

(Burst Assumptions: TD = 9.5 ppg)

.22 psi/ft = gradient for partially evac wellbore

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing\*Buoy.Fact. of water)

MASP 1382 psi

\*Burst SF is low but casing is much stronger than formation at 2653'. EMW @ 2653' for 3520# is 25.5 ppg or 1.33 psi/ft

#### **CEMENT PROGRAM**

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500	Premium cmt + 2% CaCl <sub>2</sub>	215	60%	15.60	1.18
Option 1			+ .25 pps flocele				
TOP OUT C	MT (1)	200	20 gals sodium silicate + Premium cmt	50		15.60	1.18
			+ 2% CaCl <sub>2</sub> + .25 pps flocele				
TOP OUT C	MT (2)	as required	Premium cmt + 2% CaCl <sub>2</sub>	as req.		15.60	1.18
SURFACE			NOTE: If well will circulate water to surface, or	otion 2 wil	be utilized		
Option 2	LEAD	2,000'	65/35 Poz + 6% Gel + 10 pps gilsonite	470	35%	12.60	1.81
			+.25 pps Flocele + 3% salt BWOW				
	TAIL	500	Premium cmt + 2% CaCl <sub>2</sub>	180	35%	15.60	1.18
			+ .25 pps flocele				
TOP OU	Т СМТ	as required	Premium cmt + 2% CaCl <sub>2</sub>	as req.		15.60	1.18
INTERMEDIATE	LEAD	3,816'	Premium Lite II + 3% KCI + 0.25 pps	330	10%	12.50	1.98
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	1,380'	50/50 Poz/G + 10% salt + 2% gel	200	10%	14.30	1.25
			+.1% R-3				
PRODUCTION	LEAD		No cement will be used on Packers Plus Completion System				
	TAIL						

<sup>\*\*</sup>Excess applied to the Lead slurry is calculated on Open hole Volume only.

#### **FLOAT EQUIPMENT & CENTRALIZERS**

Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring							
centralizers. Thread lock guide shoe.							
Float shoe, 2 jt w/ centralizer on each, float collar. 1 centralizers on every joint in curve and every fifth joint thereafter.							
Packer Plus completion system							

<sup>\*</sup>Substitute caliper hole volume plus 5% excess for LEAD if accurate caliper is obtained

<sup>\*</sup>Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

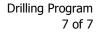
ADDITIONAL 971 FORMATION HZ

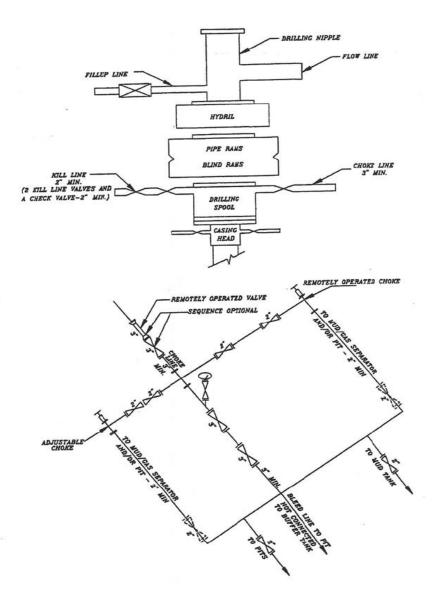
Drilling Program
3 of 3

	Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out. Test intermediate casing to 4500 psi prior to drill out.									
	BOPE: 11" 5M with one annular and 2 rams. Test to 5,000 psi (annular to 2,500 psi) prior to drilling out. Record on chart recorder &									
	tour sheet. Function test rams on each trip. Maintain safety valve & inside BOP on rig floor at all times. Kelly to be equipped with upper									
	& lower kelly valves.									
	Survey with MWD every 100' during planned angle changes and every 500' when maintaining angle.									
	Most rigs have PVT System	for mud monitoring. If no PVT is a	available, visual monitoring will be utilize	ed.						
DRILLING	ENGINEER:			DATE:	7/19/2012					
Danny Showers										
DRILLING	SUPERINTENDENT:			DATE:						
		Lovel Young								

MU 921-22M2D-HZ

EXHIBIT A MU 921-22M2D-HZ





SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK



Site: NBU 921-22M PAD Well: MU 921-22M2D-HZ

Wellbore: OH

Design: PLAN #3 PRELIMINNARY



WELL DETAILS: MU 921-22M2D-HZ GL 4906 & KB 4 @ 4910.00ft (ASSUMED)

		/-W .00		lorthing 5316.82		asting 018.93		_atittud 0.01632		Longitude -109.544262		
					DESIGN	TARGET D	ETAILS					
Name	TVD	+N/-S	+E/-V	N	Nort	thing	ı	Easting		Latitude	Longitude	Shape
Name TGT 1		97.12	-154.0	0	1453681	11.22	204	7840.49		40.020430	-109.544811	Point
TGT 2	- plan hits target co 4923.00 19	enter 99.97	-126.2	0	1453731	14.46	204	7860.07		40.021811	-109.544712	Point
101 2	- plan hits target co		-120.2	.0	143373	17.70	204	1000.01		40.021011	-109.544712	1 Ollic
TGT 3	4939.00 24	99.96	-98.5	8	1453781	14.83	204	7879.52		40.023184	-109.544614	Point
TGT 4	- plan hits target co 4962.00 29	enter 99.95	-71.0	0	1453831	15 21	204	7898.92		40 024557	-100 544515	Point
101 4	- plan hits target co		-71.0	U	143363	13.21	204	1030.32		40.024557	-109.544515	Foliit
TGT 5	4979.00 34	99.95	-43.4	0	1453881	15.58	204	7918.35		40.025929	-109.544417	Point
TOT C	- plan hits target co		45.0		4.45000	15.00	00.4	7007 70		40.007000	400 544040	Daint
TGT 6	4991.00 39 - plan hits target co	99.94	-15.8	<b>5</b> 0	1453931	15.96	204	7937.78		40.027302	-109.544318	Point
TGT 7		99.93	11.8	0	1453981	16.33	204	7957.20		40.028675	-109.544219	Point
	- plan hits target co	enter		_								
TGT 8		99.92	39.4	0	1454031	16.71	204	7976.63		40.030048	-109.544121	Point
PBHL	- plan hits target co 5042.00 52	35.23	29.6	1	145405	51.82	204	7963.00		40.030694	-109.544156	Point
	- plan hits target co	enter	_0.0	•		J.1.02		. 000.00		101000001	100.011100	
					SECT	ION DETA	ILS					
	ME	Inc	Azi	TVD	+N/-S	+E/-W	Dlea	TFace	VSect			
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
	300.00			300.00	0.00	0.00	0.00	0.00	0.00			
	650.00 2115.90		270.00 270.00 2		0.00 0.00	-21.35 -200.00	0.00	270.00 0.00	-0.12 -1.13			
	2465.90		270.00 2		0.00	-221.36		180.00	-1.15			
	4315.6		270.00		0.00	-221.36		270.00	-1.25			
	5195.7	88.01		4875.61	552.74	-203.20	10.00	1.88	551.58			
	5293.12			4879.00	650.00	-200.00	0.00	0.00				
	5358.7			4881.46	715.55	-197.12			714.42			
	6142.17			4913.00	1497.12	-154.00	0.00			GT 1_MU 921-2	22M2D-HZ	
	6204.5 <sup>2</sup> 6645.89			4914.83	1559.34 1999.97	-150.56 -126.20	2.00 0.00		1558.46	GT 2_MU 921-2	OMOD UZ	
	6685.98		3.10	4923.00 4924.02	2039.98	-120.20		.179 78	2039.25	G1 2_WIU 921-2.	ZIVIZD-NZ	
	7146.90			4939.00	2499.96	-98.58	0.00	0.00	2499.36	ГGT 3_MU 921-2	22M2D_H7	
	7186.88				2539.85	-96.38		-179.67	2539.26			
	7648.19			4962.00		-71.00	0.00	0.00	2999.507	TGT 4_MU 921-2	22M2D-HZ	
	7685.4		3.16	4963.49	3037.12	-68.95	2.00	0.20	3036.68			
	8149.23		3.16	4979.00		-43.40	0.00	0.00	3499.64	GT 5_MU 921-22	ZMZD-HZ	
	8177.2		3.16	4979.80	3527.87	-41.86	2.00	-0.01	3527.58	TGT 6_MU 921-2	22M2D-H7	
	8650.13 8656.6	88.64 88.51	3.10 4	4991.00 4991.16	3999.94 4006.47	-15.80 -15.44	0.00 2.00	120 00	4006 32			
		88.51	3.16 !	5004.00		11.80	0.00	0.00	4499.92	TGT 7_MU 921-	-22M2D-HZ	
	9199.0 <sup>2</sup>			5005.65	4547.79	14.44		180.00	4547.80			
	9652.24	87.55	3.16 5	5025.00	4999.92	39.40	0.00	0.00	5000.06	TGT 8_MU 921	-22M2D-HZ	
	9880.69		352.42		5227.26	30.67			5227.35	DIII MILOC ( 0:	01400 117	
	9888.70	84.34	352.42 5	5042.00	5235.23	29.61	0.00	0.00	5235.31F	PBHL_MU 921-2	ZMZD-HZ	

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N

Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866 Zone: Zone 12N (114 W to 108 W) Location: SECTION 22 T9S R22E

System Datum: Mean Sea Level

CASING DETAILS							
TVD	MD	Name	Size				
2500.	00 2512.67	9 5/8"	9.625				
4879.	00 5293.12	7"	7.000				
5042.	00 9888.76	4 1/2"	4.500				

Sundry Number: 28135 API Well Number 43047525840000et), NAD27, Zone 12N Site: NBU 921-22M PAD

Scientific Drilling

Well: MU 921-22M2D-HZ

Wellbore: OH

Design: PLAN #3 PRELIMINNARY



			GL 49	06 & KB 4 @ 4910.0	Oft (ASSUMED)			
	+N/-S 0.00	+E/-W 0.00	Northing 14535316.82	Easting 2048018.93	Latittude 40.016320	Longitude -109.544262		
				DESIGN TARGET D	DETAILS			
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
TGT 1	4913.00	1497.12	-154.00	14536811.22	2047840.49	40.020430	-109.544811	Point
	- plan hits targ	et center						
TGT 2	4923.00	1999.97	-126.20	14537314.46	2047860.07	40.021811	-109.544712	Point
	<ul> <li>plan hits targ</li> </ul>							
TGT 3	4939.00	2499.96	-98.58	14537814.83	2047879.52	40.023184	-109.544614	Point
	<ul> <li>plan hits targ</li> </ul>							
TGT 4	4962.00	2999.95	-71.00	14538315.21	2047898.92	40.024557	-109.544515	Point
	<ul> <li>plan hits targ</li> </ul>							
TGT 5	4979.00	3499.95	-43.40	14538815.58	2047918.35	40.025929	-109.544417	Point
	- plan hits targ							
TGT 6	4991.00	3999.94	-15.80	14539315.96	2047937.78	40.027302	-109.544318	Point
	- plan hits targ							
TGT 7	5004.00	4499.93	11.80	14539816.33	2047957.20	40.028675	-109.544219	Point
	- plan hits targ							
TGT 8	5025.00	4999.92	39.40	14540316.71	2047976.63	40.030048	-109.544121	Point
	<ul> <li>plan hits targ</li> <li>5042.00</li> </ul>		29.61	4.45.40554.00	0047000 00	40.000004	400 544450	D-1-4
PBHL		5235.23	29.61	14540551.82	2047963.00	40.030694	-109.544156	Point
	- plan hits targ	et center						

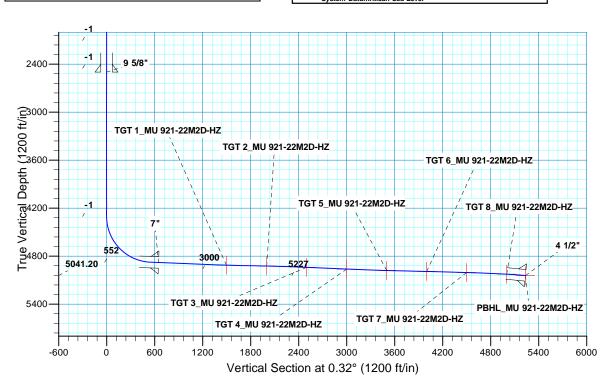
	CASING	DETAILS	
TVD	MD	Name	Size
2500	.00 2512.67	9 5/8"	9.625
4879	.00 5293.12	7"	7.000
5042	.00 9888.76	4 1/2"	4.500

PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N

Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 (NADCON CONUS)

Ellipsoid: Clarke 1866

Zone: Zone 12N (114 W to 108 W) Location: SECTION 22 T9S R22E System Datum: Mean Sea Level

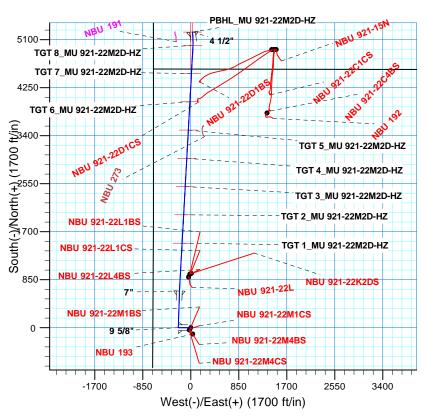




Plan: PLAN #3 PRELIMINNARY (MU 921-22M2D-HZ/OH)

Created By: RobertScott Date: 10:02, July 18 2012

					SECT	ION DETA	ILS			
	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	raiget
	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
	650.00	7.00	270.00	649.13	0.00	-21.35	2.00	270.00	-0.12	
	2115.90	7.00	270.00	2104.10	0.00	-200.00	0.00	0.00	-1.13	
	2465.90	0.00	270.00	2453.23	0.00	-221.36	2.00	180.00	-1.25	
	4315.67	0.00	270.00	4303.00	0.00	-221.36	0.00	270.00	-1.25	
	5195.75	88.01	1.88	4875.61	552.74	-203.20	10.00	1.88	551.58	
	5293.12	88.01	1.88	4879.00	650.00	-200.00	0.00	0.00	648.86	
	5358.78	87.69	3.16	4881.46	715.55	-197.12	2.00	103.89	714.42	
	6142.17	87.69	3.16	4913.00	1497.12	-154.00	0.00	0.00	1496.23	TGT 1_MU 921-22M2D-HZ
	6204.51	88.94	3.16	4914.83	1559.34	-150.56	2.00	0.34	1558.46	
	6645.89	88.94	3.16	4923.00	1999.97	-126.20	0.00	0.00	1999.22	TGT 2 MU 921-22M2D-HZ
	6685.98	88.14	3.16	4924.02	2039.98	-123.99	2.00	-179.78	2039.25	
	7146.90	88.14	3.16	4939.00	2499.96	-98.58	0.00	0.00	2499.36	TGT 3_MU 921-22M2D-HZ
	7186.88	87.34	3.16	4940.58	2539.85	-96.38	2.00	-179.67	2539.26	
	7648.19	87.34	3.16	4962.00	2999.95	-71.00	0.00	0.00	2999.50	TGT 4_MU 921-22M2D-HZ
	7685.44	88.08	3.16	4963.49	3037.12	-68.95	2.00	0.20	3036.68	
	8149.23	88.08	3.16	4979.00	3499.95	-43.40	0.00	0.00	3499.64	TGT 5 MU 921-22M2D-HZ
	8177.21	88.64	3.16	4979.80	3527.87	-41.86	2.00	-0.01	3527.58	
	8650.13	88.64	3.16	4991.00	3999.94	-15.80	0.00	0.00	3999.78	TGT 6_MU 921-22M2D-HZ
	8656.67	88.51	3.16	4991.16	4006.47	-15.44	2.00	180.00	4006.32	
	9151.05	88.51	3.16	5004.00	4499.93	11.80	0.00	0.00	4499.92	TGT 7_MU 921-22M2D-HZ
	9199.01	87.55	3.16	5005.65	4547.79	14.44	2.00	-180.00	4547.80	
	9652.24	87.55	3.16	5025.00	4999.92	39.40	0.00	0.00	5000.06	TGT 8_MU 921-22M2D-HZ
	9880.69	84.34	352.42	5041.20	5227.26	30.67	4.90	-107.05	5227.35	PBHL MU 921-22M2D-HZ
	9888.76	84.34	352.42	5042.00	5235.23	29.61	0.00	0.00	5235.31	FBHL_WU 921-22W2D-M2
•	•									





# **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N NBU 921-22M PAD MU 921-22M2D-HZ

OH

Plan: PLAN #3 PRELIMINNARY

# **Standard Planning Report**

18 July, 2012





## **SDI** Planning Report



Database: EDM5000-RobertS-Local Company: US ROCKIES REGION P

US ROCKIES REGION PLANNING
UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22M PAD

 Well:
 MU 921-22M2D-HZ

Wellbore: OH

Project:

Design: PLAN #3 PRELIMINNARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well MU 921-22M2D-HZ

GL 4906 & KB 4 @ 4910.00ft (ASSUMED) GL 4906 & KB 4 @ 4910.00ft (ASSUMED)

True

Minimum Curvature

Project UTAH - UTM (feet), NAD27, Zone 12N

Map System: Universal Transverse Mercator (US Survey Feet)

Geo Datum: NAD 1927 (NADCON CONUS)
Map Zone: Zone 12N (114 W to 108 W)

System Datum: Mean Sea Level

NBU 921-22M PAD, SECTION 22 T9S R22E Site Northing: 14,535,316.82 usft Site Position: Latitude: 40.016320 From: Lat/Long Easting: 2,048,018.93 usft Longitude: -109.544262 **Position Uncertainty:** 0.00 ft Slot Radius: **Grid Convergence:** 0.94 13.200 in

Well MU 921-22M2D-HZ, 660' FSL, 660' FEL **Well Position** +N/-S 0.00 ft 14,535,316.82 usft Latitude: 40.016320 Northing: +E/-W 0.00 ft Easting: 2,048,018.93 usft Longitude: -109.544262 **Position Uncertainty** 0.00 ft Wellhead Elevation: **Ground Level:** 4,906.00 ft

Wellbore ОН Magnetics **Model Name** Sample Date Declination Dip Angle Field Strength (nT) (°) (°) IGRF2010 07/10/12 10.96 65.85 52.226

PLAN #3 PRELIMINNARY Design Audit Notes: PROTOTYPE Version: Phase: Tie On Depth: 0.00 **Vertical Section:** Depth From (TVD) +N/-S +E/-W Direction (ft) (ft) (ft) (°) 0.00 0.00 0.00 0.32

07/18/12 10:04:11AM Page 2 COMPASS 5000.1 Build 40



## SDI **Planning Report**



Database: Company: Project:

EDM5000-RobertS-Local

US ROCKIES REGION PLANNING UTAH - UTM (feet), NAD27, Zone 12N

NBU 921-22M PAD Site: Well:

Wellbore:

MU 921-22M2D-HZ

Design:

ОН PLAN #3 PRELIMINNARY Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well MU 921-22M2D-HZ

GL 4906 & KB 4 @ 4910.00ft (ASSUMED) GL 4906 & KB 4 @ 4910.00ft (ASSUMED)

Minimum Curvature

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
650.00	7.00	270.00	649.13	0.00	-21.35	2.00	2.00	0.00	270.00	
2,115.90	7.00	270.00	2,104.10	0.00	-200.00	0.00	0.00	0.00	0.00	
2,465.90	0.00	270.00	2,453.23	0.00	-221.36	2.00	-2.00	0.00	180.00	
4,315.67	0.00	270.00	4,303.00	0.00	-221.36	0.00	0.00	0.00	270.00	
5,195.75	88.01	1.88	4,875.61	552.74	-203.20	10.00	10.00	10.44	1.88	
5,293.12	88.01	1.88	4,879.00	650.00	-200.00	0.00	0.00	0.00	0.00	
5,358.78	87.69	3.16	4,881.46	715.55	-197.12	2.00	-0.48	1.94	103.89	
6,142.17	87.69	3.16	4,913.00	1,497.12	-154.00	0.00	0.00	0.00	0.00	TGT 1_MU 921-22
6,204.51	88.94	3.16	4,914.83	1,559.34	-150.56	2.00	2.00	0.01	0.34	
6,645.89	88.94	3.16	4,923.00	1,999.97	-126.20	0.00	0.00	0.00	0.00	TGT 2_MU 921-22
6,685.98	88.14	3.16	4,924.02	2,039.98	-123.99	2.00	-2.00	-0.01	-179.78	
7,146.90	88.14	3.16	4,939.00	2,499.96	-98.58	0.00	0.00	0.00	0.00	TGT 3_MU 921-22
7,186.88	87.34	3.16	4,940.58	2,539.85	-96.38	2.00	-2.00	-0.01	-179.67	
7,648.19	87.34	3.16	4,962.00	2,999.95	-71.00	0.00	0.00	0.00	0.00	TGT 4_MU 921-22
7,685.44	88.08	3.16	4,963.49	3,037.12	-68.95	2.00	2.00	0.01	0.20	
8,149.23	88.08	3.16	4,979.00	3,499.95	-43.40	0.00	0.00	0.00	0.00	TGT 5_MU 921-22
8,177.21	88.64	3.16	4,979.80	3,527.87	-41.86	2.00	2.00	0.00	-0.01	
8,650.13	88.64	3.16	4,991.00	3,999.94	-15.80	0.00	0.00	0.00	0.00	TGT 6_MU 921-22
8,656.67	88.51	3.16	4,991.16	4,006.47	-15.44	2.00	-2.00	0.00	180.00	
9,151.05	88.51	3.16	5,004.00	4,499.93	11.80	0.00	0.00	0.00	0.00	TGT 7_MU 921-22
9,199.01	87.55	3.16	5,005.65	4,547.79	14.44	2.00	-2.00	0.00	-180.00	
9,652.24	87.55	3.16	5,025.00	4,999.92	39.40	0.00	0.00	0.00	0.00	TGT 8_MU 921-22
9,880.69	84.34	352.42	5,041.20	5,227.26	30.67	4.90	-1.41	-4.70	-107.05	
9,888.76	84.34	352.42	5,042.00	5,235.23	29.61	0.00	0.00	0.00	0.00	PBHL_MU 921-22



# **SDI**Planning Report



Database: Company: Project: EDM5000-RobertS-Local

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22M PAD

 Well:
 MU 921-22M2D-HZ

Wellbore: OH

Design: PLAN #3 PRELIMINNARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well MU 921-22M2D-HZ

GL 4906 & KB 4 @ 4910.00ft (ASSUMED) GL 4906 & KB 4 @ 4910.00ft (ASSUMED)

True

Minimum Curvature

20 30 <b>Start</b> I 40 50 66 <b>Start</b> 70 80 90	0.00 00.00 00.00 00.00 00.00 Build 2.0 00.00 00.00 00.00	2.00 4.00	Azimuth (°)  0.00 0.00 0.00 0.00 270.00	Vertical Depth (ft)  0.00 100.00 200.00 300.00	+N/-S (ft) 0.00 0.00	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Dept (ft)  10 20 30 Start   40 50 65 Start   70 80 90 1,00	0.00 00.00 00.00 00.00 00.00 <b>Build 2.0</b> 00.00 600.00 600.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	Depth (ft) 0.00 100.00 200.00	(ft) 0.00 0.00	(ft)	Section	Rate	Rate	Rate
20 30 Start I 40 50 66 Start 70 80 90 1,00	00.00 200.00 300.00 <b>Build 2.0</b> 500.00 500.00 550.00	0.00 0.00 0.00 0.00 2.00 4.00	0.00 0.00 0.00	100.00 200.00	0.00	0.00			( ,	( / 10011)
20 30 <b>Start</b> I 40 50 66 <b>Start</b> 70 80 90	200.00 300.00 <b>Build 2.0</b> 500.00 500.00 550.00	0.00 0.00 <b>10</b> 2.00 4.00	0.00 0.00	200.00			0.00	0.00	0.00	0.00
30 Start I 40 50 60 65 Start 70 80 90 1,00	Build 2.0 00.00 00.00 00.00 00.00 550.00	0.00 00 2.00 4.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00
Start   40 50 60 65 Start   70 80 90 1,00	Build 2.0 .00.00 .00.00 .00.00 .50.00	2.00 4.00		300.00	0.00	0.00	0.00	0.00	0.00	0.00
40 50 65 <b>Start</b> 70 80 90	600.00 600.00 600.00 650.00	2.00 4.00			0.00	0.00	0.00	0.00	0.00	0.00
40 50 65 <b>Start</b> 70 80 90	600.00 600.00 600.00 650.00	2.00 4.00	270.00							
50 66 <b>Start</b> 70 80 90	600.00 600.00 650.00	4.00		399.98	0.00	-1.75	-0.01	2.00	2.00	0.00
66 65 <b>Start</b> 70 80 90 1,00	600.00 650.00									
65 Start 70 80 90 1,00	50.00	6.00	270.00	499.84	0.00	-6.98	-0.04	2.00	2.00	0.00
Start 90 1,00		6.00	270.00	599.45	0.00	-15.69	-0.09	2.00	2.00	0.00
70 80 90 1,00	1465.90	7.00	270.00	649.13	0.00	-21.35	-0.12	2.00	2.00	0.00
80 90 1,00		hold at 650.00 l	MD							
90 1,00	00.00	7.00	270.00	698.76	0.00	-27.45	-0.16	0.00	0.00	0.00
1,00	00.00	7.00	270.00	798.01	0.00	-39.63	-0.22	0.00	0.00	0.00
1,00	00 00	7.00	270.00	897.27	0.00	-51.82	-0.29	0.00	0.00	0.00
	00.00	7.00	270.00					0.00	0.00	0.00
		7.00	270.00	996.52	0.00	-64.01	-0.36	0.00	0.00	0.00
	00.00	7.00	270.00	1,095.78	0.00	-76.19	-0.43	0.00	0.00	0.00
	00.00	7.00	270.00	1,195.03	0.00	-88.38	-0.50	0.00	0.00	0.00
1,30	00.00	7.00	270.00	1,294.28	0.00	-100.57	-0.57	0.00	0.00	0.00
1,40	.00.00	7.00	270.00	1,393.54	0.00	-112.76	-0.64	0.00	0.00	0.00
1,50	00.00	7.00	270.00	1,492.79	0.00	-124.94	-0.71	0.00	0.00	0.00
1,60	00.00	7.00	270.00	1,592.05	0.00	-137.13	-0.78	0.00	0.00	0.00
1,70	00.00	7.00	270.00	1,691.30	0.00	-149.32	-0.84	0.00	0.00	0.00
1,80	00.00	7.00	270.00	1,790.56	0.00	-161.50	-0.91	0.00	0.00	0.00
4.04	00 00	7.00	070.00	4 000 04	0.00	470.00	0.00	0.00	0.00	0.00
	00.00	7.00	270.00	1,889.81	0.00	-173.69	-0.98	0.00	0.00	0.00
	00.00	7.00	270.00	1,989.07	0.00	-185.88	-1.05	0.00	0.00	0.00
	00.00	7.00	270.00	2,088.32	0.00	-198.06	-1.12	0.00	0.00	0.00
	15.90	7.00	270.00	2,104.10	0.00	-200.00	-1.13	0.00	0.00	0.00
	Drop -2.0									
2,20	200.00	5.32	270.00	2,187.71	0.00	-209.02	-1.18	2.00	-2.00	0.00
2.30	00.00	3.32	270.00	2,287.43	0.00	-216.55	-1.22	2.00	-2.00	0.00
,	.00.00	1.32	270.00	2,387.34	0.00	-220.60	-1.25	2.00	-2.00	0.00
	65.90	0.00	270.00	2,453.23	0.00	-221.36	-1.25	2.00	-2.00	0.00
		hold at 2465.90								
	00.00	0.00	270.00	2,487.33	0.00	-221.36	-1.25	0.00	0.00	0.00
	12.67	0.00	270.00	2,500.00	0.00	-221.36	-1.25	0.00	0.00	0.00
9 5/8"		0.00	_, 0.00	_,555.55	0.00	1.00	1.20	0.00	0.00	0.00
	00.00	0.00	270.00	2,587.33	0.00	-221.36	-1.25	0.00	0.00	0.00
	00.00	0.00	270.00	2,687.33	0.00	-221.36	-1.25	0.00	0.00	0.00
2,80	00.00	0.00	270.00	2,787.33	0.00	-221.36	-1.25	0.00	0.00	0.00
	00.00	0.00	270.00	2,887.33	0.00	-221.36	-1.25	0.00	0.00	0.00
3,00	00.00	0.00	270.00	2,987.33	0.00	-221.36	-1.25	0.00	0.00	0.00
2 10	00.00	0.00	270.00	3,087.33	0.00	-221.36	-1.25	0.00	0.00	0.00
	200.00	0.00	270.00	3,187.33	0.00	-221.36	-1.25 -1.25	0.00	0.00	0.00
	00.00	0.00	270.00	3,187.33	0.00	-221.36	-1.25 -1.25	0.00	0.00	0.00
	00.00	0.00	270.00	3,287.33	0.00	-221.36 -221.36	-1.25 -1.25	0.00	0.00	0.00
	600.00	0.00	270.00	3,487.33	0.00	-221.36 -221.36	-1.25 -1.25	0.00	0.00	0.00
3,30	00.00	0.00	210.00	J, <del>4</del> 01.JJ	0.00	-221.30	-1.20	0.00	0.00	0.00
3,60	00.00	0.00	270.00	3,587.33	0.00	-221.36	-1.25	0.00	0.00	0.00
3,70	00.00	0.00	270.00	3,687.33	0.00	-221.36	-1.25	0.00	0.00	0.00
3,80	00.00	0.00	270.00	3,787.33	0.00	-221.36	-1.25	0.00	0.00	0.00
3,90	00.00	0.00	270.00	3,887.33	0.00	-221.36	-1.25	0.00	0.00	0.00
4,00	00.00	0.00	270.00	3,987.33	0.00	-221.36	-1.25	0.00	0.00	0.00
1 11	00.00	0.00	270.00	4,087.33	0.00	-221.36	-1.25	0.00	0.00	0.00
,	200.00	0.00	270.00	4,087.33 4,187.33	0.00	-221.36 -221.36	-1.25 -1.25	0.00	0.00	0.00
,	300.00	0.00	270.00	4,187.33	0.00 0.00	-221.36 -221.36	-1.25 -1.25	0.00 0.00	0.00	0.00
	315.67	0.00	270.00	4,287.33	0.00	-221.36 -221.36	-1.25 -1.25	0.00	0.00	0.00



# **SDI**Planning Report



Database: Company: Project: EDM5000-RobertS-Local

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22M PAD

 Well:
 MU 921-22M2D-HZ

Wellbore:

Design: PLAN #3 PRELIMINNARY

ОН

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Well MU 921-22M2D-HZ

GL 4906 & KB 4 @ 4910.00ft (ASSUMED) GL 4906 & KB 4 @ 4910.00ft (ASSUMED)

True

Minimum Curvature

I.	FLAN#3FIX								
ed Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
Ctout DI C	40.00 TEO 4.00								
4,400.00	<b>10.00 TFO 1.88</b> 8.43	1.88	4,387.03	6.19	-221.15	4.94	10.00	10.00	0.00
4,500.00		1.88	4,484.17	29.38	-220.39	28.13	10.00	10.00	0.00
4,600.00		1.88	4,575.81	69.08	-219.09	67.84	10.00	10.00	0.00
4,700.00		1.88	4,659.15	124.07	-217.28	122.84	10.00	10.00	0.00
4,800.00 4,900.00		1.88 1.88	4,731.68 4,791.18	192.70	-215.02 -212.39	191.48 271.66	10.00	10.00 10.00	0.00 0.00
4,900.00				272.87			10.00		
5,000.00		1.88	4,835.85	362.15	-209.46	360.96	10.00	10.00	0.00
5,100.00		1.88	4,864.32	457.82	-206.31	456.65	10.00	10.00	0.00
5,195.7		1.88	4,875.61	552.74	-203.20	551.58	10.00	10.00	0.00
	7 hold at 5195.75 N		4 075 70	FF0 00	000.00	555.00	0.00	0.00	0.00
5,200.00		1.88	4,875.76	556.99	-203.06	555.83 648.86	0.00	0.00 0.00	0.00
5,293.12		1.88	4,879.00	650.00	-200.00	048.80	0.00	0.00	0.00
Start DLS	2.00 TFO 103.89 -	1							
5,300.00		2.02	4,879.24	656.87	-199.77	655.73	2.00	-0.48	1.94
5,358.78		3.16	4,881.46	715.55	-197.12	714.42	2.00	-0.48	1.94
	40 hold at 5358.78								
5,400.00		3.16	4,883.12	756.68	-194.85	755.56	0.00	0.00	0.00
5,500.00		3.16	4,887.15	856.44	-189.34	855.36	0.00	0.00	0.00
5,600.00	87.69	3.16	4,891.17	956.21	-183.84	955.15	0.00	0.00	0.00
5,700.00	87.69	3.16	4,895.20	1,055.98	-178.34	1,054.95	0.00	0.00	0.00
5,800.00	87.69	3.16	4,899.23	1,155.74	-172.83	1,154.75	0.00	0.00	0.00
5,900.00		3.16	4,903.25	1,255.51	-167.33	1,254.54	0.00	0.00	0.00
6,000.00		3.16	4,907.28	1,355.28	-161.82	1,354.34	0.00	0.00	0.00
6,100.00	87.69	3.16	4,911.30	1,455.05	-156.32	1,454.14	0.00	0.00	0.00
6,142.17	7 87.69	3.16	4,913.00	1,497.12	-154.00	1,496.23	0.00	0.00	0.00
Start DLS	2.00 TFO 0.34 - TO	GT 1_MU 921-22	M2D-HZ						
6,200.00	88.85	3.16	4,914.74	1,554.83	-150.81	1,553.95	2.00	2.00	0.01
6,204.5	1 88.94	3.16	4,914.83	1,559.34	-150.56	1,558.46	2.00	2.00	0.01
	38 hold at 6204.51								
6,300.00		3.16	4,916.60	1,654.66	-145.29	1,653.81	0.00	0.00	0.00
6,400.00	88.94	3.16	4,918.45	1,754.49	-139.77	1,753.67	0.00	0.00	0.00
6,500.00	88.94	3.16	4,920.30	1,854.32	-134.25	1,853.53	0.00	0.00	0.00
6,600.00		3.16	4,922.15	1,954.15	-128.73	1,953.39	0.00	0.00	0.00
6,645.89		3.16	4,923.00	1,999.97	-126.20	1,999.22	0.00	0.00	0.00
	2.00 TFO -179.78 ·	_							
6,685.98		3.16	4,924.02	2,039.98	-123.99	2,039.25	2.00	-2.00	-0.01
	92 hold at 6685.98								
6,700.00	88.14	3.16	4,924.48	2,053.97	-123.22	2,053.24	0.00	0.00	0.00
6,800.00	88.14	3.16	4,927.73	2,153.77	-117.70	2,153.07	0.00	0.00	0.00
6,900.00	88.14	3.16	4,930.98	2,253.56	-112.19	2,252.89	0.00	0.00	0.00
7,000.00		3.16	4,934.23	2,353.36	-106.68	2,352.72	0.00	0.00	0.00
7,100.00		3.16	4,937.48	2,453.15	-101.17	2,452.54	0.00	0.00	0.00
7,146.90		3.16	4,939.00	2,499.96	-98.58	2,499.36	0.00	0.00	0.00
Start DLS	2.00 TFO -179.67	- TGT 3_MU 921	-22M2D-HZ						
7,186.88	87.34	3.16	4,940.58	2,539.85	-96.38	2,539.26	2.00	-2.00	-0.01
	30 hold at 7186.88		,: .:	,		,			
7,200.00		3.16	4,941.19	2,552.93	-95.66	2,552.35	0.00	0.00	0.00
7,300.00		3.16	4,945.83	2,652.67	-90.16	2,652.12	0.00	0.00	0.00
7,400.00		3.16	4,950.47	2,752.41	-84.65	2,751.89	0.00	0.00	0.00
7,500.00		3.16	4,955.12	2,852.15	-79.15	2,851.66	0.00	0.00	0.00
				2,951.89	-73.65	2,951.43	0.00	0.00	



# **SDI**Planning Report



Database: Company: Project: EDM5000-RobertS-Local

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22M PAD

 Well:
 MU 921-22M2D-HZ

Wellbore: OH

Design: PLAN #3 PRELIMINNARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well MU 921-22M2D-HZ

GL 4906 & KB 4 @ 4910.00ft (ASSUMED) GL 4906 & KB 4 @ 4910.00ft (ASSUMED)

True

Minimum Curvature

	PLAN #3 PRE	LIMINNARY							
ed Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
							, ,	, ,	, ,
7,648.19	87.34	3.16	4,962.00	2,999.95	-71.00	2,999.50	0.00	0.00	0.00
		ST 4_MU 921-22		2 027 12	60.05	2 026 69	2.00	2.00	0.01
7,685.44	88.08	3.16	4,963.49	3,037.12	-68.95	3,036.68	2.00	2.00	0.01
	hold at 7685.44		4 000 00	0.054.05	00.45	0.054.00	0.00	0.00	0.00
7,700.00	88.08	3.16	4,963.98	3,051.65	-68.15	3,051.22	0.00	0.00	0.00
7,800.00	88.08	3.16	4,967.32	3,151.44	-62.64	3,151.04	0.00	0.00	0.00
7,900.00	88.08	3.16	4,970.66	3,251.24	-57.13	3,250.86	0.00	0.00	0.00
8,000.00	88.08	3.16	4,974.01	3,351.03	-51.62	3,350.68	0.00	0.00	0.00
8,100.00	88.08	3.16	4,977.35	3,450.82	-46.11	3,450.50	0.00	0.00	0.00
8,149.23	88.08	3.16	4,979.00	3,499.95	-43.40	3,499.64	0.00	0.00	0.00
		GT 5_MU 921-22							
8,177.21	88.64	3.16	4,979.80	3,527.87	-41.86	3,527.58	2.00	2.00	0.00
Start 472.92	hold at 8177.21	MD							
8,200.00	88.64	3.16	4,980.34	3,550.62	-40.60	3,550.34	0.00	0.00	0.00
8,300.00	88.64	3.16	4,982.71	3,650.44	-35.09	3,650.19	0.00	0.00	0.00
8,400.00	88.64	3.16	4,985.08	3,750.26	-29.58	3,750.03	0.00	0.00	0.00
8,500.00	88.64	3.16	4,987.44	3,850.08	-24.07	3,849.88	0.00	0.00	0.00
8,600.00	88.64	3.16	4,989.81	3,949.90	-18.56	3,949.73	0.00	0.00	0.00
8,650.13	88.64	3.16	4,991.00	3,999.94	-15.80	3,999.78	0.00	0.00	0.00
		TGT 6_MU 921-		3,999.94	-13.60	3,999.70	0.00	0.00	0.00
8,656.67	88.51	3.16	4,991.16	4,006.47	-15.44	4.006.32	2.00	-2.00	0.00
	hold at 8656.67		4,331.10	4,000.47	-10.44	4,000.32	2.00	-2.00	0.00
8,700.00	88.51	3.16	4,992.29	4,049.72	-13.05	4,049.58	0.00	0.00	0.00
8,800.00	88.51	3.16	4,994.88	4,149.53	-7.54	4,149.42	0.00	0.00	0.00
8,900.00	88.51	3.16	4,997.48	4,249.35	-2.03	4,249.27	0.00	0.00	0.00
9,000.00	88.51	3.16	5,000.08 5,002.67	4,349.16	3.48	4,349.11	0.00	0.00	0.00
9,100.00 9,151.05	88.51 88.51	3.16 3.16	5,002.67	4,448.98 4,499.93	8.99 11.80	4,448.96 4,499.92	0.00 0.00	0.00 0.00	0.00 0.00
				4,499.93	11.00	4,499.92	0.00	0.00	0.00
9,199.01	- 87.55	TGT 7_MU 921 3.16	5,005.65	4,547.79	14.44	4,547.80	2.00	-2.00	0.00
	hold at 9199.01		3,003.03	4,547.79	14.44	4,547.00	2.00	-2.00	0.00
9,200.00	87.55	3.16	5,005.69	4,548.78	14.50	4,548.79	0.00	0.00	0.00
,									
9,300.00	87.55	3.16	5,009.96	4,648.53	20.00	4,648.57	0.00	0.00	0.00
9,400.00	87.55	3.16	5,014.23	4,748.29	25.51	4,748.36	0.00	0.00	0.00
9,500.00	87.55 97.55	3.16	5,018.50	4,848.05	31.02	4,848.15	0.00	0.00	0.00
9,600.00 9,652.24	87.55 87.55	3.16 3.16	5,022.77 5,025.00	4,947.81	36.52 39.40	4,947.93 5,000.06	0.00 0.00	0.00 0.00	0.00 0.00
			*	4,999.92	39.40	5,000.06	0.00	0.00	0.00
อเลกเ DLS 4.9	1 1 TO -107.05 -	TGT 8_MU 921	-22NI2D-HZ						
9,700.00	86.87	0.92	5,027.32	5,047.59	41.10	5,047.74	4.90	-1.43	-4.69
9,800.00	85.45	356.22	5,034.02	5,147.30	38.62	5,147.44	4.90	-1.41	-4.70
9,880.69	84.34	352.42	5,041.20	5,227.26	30.67	5,227.35	4.90	-1.39	-4.71
	ld at 9880.69 MI								
9,888.76	84.34	352.42	5,042.00	5,235.22	29.61	5,235.31	0.00	0.00	0.00
4 1/2" - PBHL	_MU 921-22M2	D-HZ							



# **SDI**Planning Report



Database: EDM50 Company: US RO

EDM5000-RobertS-Local

US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22M PAD

 Well:
 MU 921-22M2D-HZ

Wellbore: OH

Project:

Design: PLAN #3 PRELIMINNARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well MU 921-22M2D-HZ

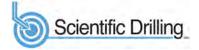
GL 4906 & KB 4 @ 4910.00ft (ASSUMED) GL 4906 & KB 4 @ 4910.00ft (ASSUMED)

Truo

Minimum Curvature

Design Targets									
Design rargets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
TGT 1_MU 921-22M2D- - plan hits target cen - Point	0.00 ter	0.00	4,913.00	1,497.12	-154.00	14,536,811.23	2,047,840.48	40.020430	-109.544812
TGT 2_MU 921-22M2D- - plan hits target cen - Point	0.00 ter	0.00	4,923.00	1,999.97	-126.20	14,537,314.46	2,047,860.06	40.021811	-109.544713
TGT 3_MU 921-22M2D- - plan hits target cen - Point	0.00 ter	0.00	4,939.00	2,499.96	-98.58	14,537,814.84	2,047,879.51	40.023184	-109.544614
TGT 4_MU 921-22M2D- - plan hits target cen - Point	0.00 ter	0.00	4,962.00	2,999.95	-71.00	14,538,315.21	2,047,898.92	40.024557	-109.544515
TGT 5_MU 921-22M2D- - plan hits target cen - Point	0.00 ter	0.00	4,979.00	3,499.95	-43.40	14,538,815.59	2,047,918.34	40.025930	-109.544417
TGT 6_MU 921-22M2D- - plan hits target cen - Point	0.00 ter	0.00	4,991.00	3,999.94	-15.80	14,539,315.96	2,047,937.77	40.027302	-109.544318
TGT 7_MU 921-22M2D- - plan hits target cen - Point	0.00 ter	0.00	5,004.00	4,499.93	11.80	14,539,816.34	2,047,957.20	40.028675	-109.544220
TGT 8_MU 921-22M2D- - plan hits target cen - Point	0.00 ter	0.00	5,025.00	4,999.92	39.40	14,540,316.70	2,047,976.62	40.030048	-109.544121
PBHL_MU 921-22M2D-l - plan hits target cen - Point	0.00 ter	0.00	5,042.00	5,235.23	29.61	14,540,551.81	2,047,962.99	40.030694	-109.544156

Casing Points							
	Measured Depth (ft)	Vertical Depth (ft)		Name	Casing Diameter (in)	Hole Diameter (in)	
	2,512.67	2,500.00	9 5/8"		9.625	12.250	
	5,293.12	4,879.00	7"		7.000	7.500	
	9,888.76	5,042.00	4 1/2"		4.500	6.125	



# **SDI**Planning Report



Database: EDM5000-RobertS-Local

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N

 Site:
 NBU 921-22M PAD

 Well:
 MU 921-22M2D-HZ

Wellbore: OH

Design: PLAN #3 PRELIMINNARY

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Well MU 921-22M2D-HZ

GL 4906 & KB 4 @ 4910.00ft (ASSUMED) GL 4906 & KB 4 @ 4910.00ft (ASSUMED)

True

Minimum Curvature

lan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coord +N/-S (ft)	dinates +E/-W (ft)	Comment
300.00	300.00	0.00	0.00	Start Build 2.00
650.00	649.13	0.00	-21.35	Start 1465.90 hold at 650.00 MD
2,115.90	2,104.10	0.00	-200.00	Start Drop -2.00
2,465.90	2,453.23	0.00	-221.36	Start 1849.77 hold at 2465.90 MD
4,315.67	4,303.00	0.00	-221.36	Start DLS 10.00 TFO 1.88
5,195.75	4,875.61	552.74	-203.20	Start 97.37 hold at 5195.75 MD
5,293.12	4,879.00	650.00	-200.00	Start DLS 2.00 TFO 103.89
5,358.78	4,881.46	715.55	-197.12	Start 783.40 hold at 5358.78 MD
6,142.17	4,913.00	1,497.12	-154.00	Start DLS 2.00 TFO 0.34
6,204.51	4,914.83	1,559.34	-150.56	Start 441.38 hold at 6204.51 MD
6,645.89	4,923.00	1,999.97	-126.20	Start DLS 2.00 TFO -179.78
6,685.98	4,924.02	2,039.98	-123.99	Start 460.92 hold at 6685.98 MD
7,146.90	4,939.00	2,499.96	-98.58	Start DLS 2.00 TFO -179.67
7,186.88	4,940.58	2,539.85	-96.38	Start 461.30 hold at 7186.88 MD
7,648.19	4,962.00	2,999.95	-71.00	Start DLS 2.00 TFO 0.20
7,685.44	4,963.49	3,037.12	-68.95	Start 463.79 hold at 7685.44 MD
8,149.23	4,979.00	3,499.95	-43.40	Start DLS 2.00 TFO -0.01
8,177.21	4,979.80	3,527.87	-41.86	Start 472.92 hold at 8177.21 MD
8,650.13	4,991.00	3,999.94	-15.80	Start DLS 2.00 TFO 180.00
8,656.67	4,991.16	4,006.47	-15.44	Start 494.38 hold at 8656.67 MD
9,151.05	5,004.00	4,499.93	11.80	Start DLS 2.00 TFO -180.00
9,199.01	5,005.65	4,547.79	14.44	Start 453.23 hold at 9199.01 MD
9,652.24	5,025.00	4,999.92	39.40	Start DLS 4.90 TFO -107.05
9,880.69	5,041.20	5,227.26	30.67	Start 8.08 hold at 9880.69 MD
9,888.76	5,042.00	5,235.23	29.61	TD at 9888.76

 $\begin{tabular}{ll} MU 921-22M2D-HZ/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS \\ Kerr-McGee Oil Gas Onshore, L.P. \end{tabular}$ 

 $\begin{array}{c} {\rm NBU~921\text{-}22M~Pad} \\ {\rm Surface~Use~Plan~of~Operations} \\ {\rm 1~of~11} \end{array}$ 

#### Kerr-McGee Oil & Gas Onshore. L.P.

#### NBU 921-22M Pad

1	MU 921-22M2D-HZ		
Surface:	711 FSL / 671 FWL	SWSW	Lot
BHL:	660 FSL / 690 FWL	SWSW	Lot
<u>API #4304752586</u> NBU 921-22M1BS			
Surface:	695 FSL / 660 FWL	SWSW	Lot
BHL:	1080 FSL / 823 FWL	SWSW	Lot
<u>API #4304752587</u> NBU 921-22M1CS			
Surface:	686 FSL / 654 FWL	SWSW	Lot
BHL:	748 FSL / 823 FWL	SWSW	Lot
<u>API #4304752588</u> NBU 921-22M4BS			
Surface:	678 FSL / 649 FWL	SWSW	Lot
BHL:	416 FSL / 823 FWL	SWSW	Lot
API #4304752589 NBU 921-22M4CS			
Surface:	670 FSL / 643 FWL	SWSW	Lot
BHL:	86 FSL / 823 FWL	SWSW	Lot
	Surface: BHL:  Surface: BHL:  Surface: BHL:  Surface: BHL:	NBU 921-22M1BS     Surface: 695 FSL / 660 FWL     BHL: 1080 FSL / 823 FWL     NBU 921-22M1CS     Surface: 686 FSL / 654 FWL     BHL: 748 FSL / 823 FWL     NBU 921-22M4BS     Surface: 678 FSL / 649 FWL     BHL: 416 FSL / 823 FWL     NBU 921-22M4CS     Surface: 670 FSL / 643 FWL	Surface:   711 FSL / 671 FWL   SWSW

This Surface Use Plan of Operations (SUPO) or 13-point plan provides site-specific information for the above-referenced wells

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

An on-site meeting was held on October 3-4, 2011. Present were:

- · Bucky Secakuku (10/4/2011 only) BIA;
- · LeAllen Blackhair, Rainey Longhair Ute Indian Tribe;
- Kelly Jo Jackson Montgomery Archeological Consultants Inc.;
- Scott Carson Smiling Lake Consulting;
- · John Slaugh, Mitch Batty Timberline Engineering & Land Surveying, Inc.;
- Laura Abrams, Charles Chase, Raleen White, Doyle Holmes, Lovel Young, Sheila Wopsock Kerr-McGee

#### A. Existing Roads:

Existing roads consist of county and improved/unimproved access roads (two-tracks). In accordance with Onshore Order #1, Kerr-McGee will, in accordance with BMPs, improve or maintain existing roads in a condition that is the same as or better than before operations began. New or reconstructed proposed access roads are discussed in Section B.

The existing roads will be maintained in a safe and usable condition. Maintenance for existing roads will continue until final abandonment and reclamation of well pads and/or other facilities, as applicable. Road maintenance will include, but is not limited to, blading, ditching, and/or culvert installation and cleanout. To ensure safe operating conditions, gravel surfacing will be performed where excessive rutting or erosion may occur. Dust control will be performed as necessary to ensure safe operating conditions.

MU 921-22M2D-HZ/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22M Pad Surface Use Plan of Operations 2 of 11

Roads, gathering lines and electrical distribution lines will occupy common disturbance corridors where possible. Where available, roadways will be used as the staging area and working space for installation of gathering lines. All disturbances located in the same corridor will overlap each other to the maximum extent possible, while maintaining safe and sound construction and installation practices. Unless otherwise approved or requested in site specific documents, in no case will the maximum disturbance widths of the access road and utility corridors exceed the widths specified in Part D of this document.

Please refer to Topo B, for existing roads.

#### B. New or Reconstructed Access Roads:

All new or reconstructed roads will be located, designed, and maintained to meet the standards of the BIA.

Each new well pad or pad expansion may require construction of a new access road and/or de-commissioning of an older road. Plans, routes, and distances for new roads and road improvements are provided in design packages, exhibits and maps for a project. Project-specific maps are submitted to depict the locations of existing, proposed, and/or decommissioned and include the locations for supporting structures, including, but not limited to, culverts, bridges, low water crossings, range infrastructure, and haul routes, as per OSO 1. Designs for cuts and fills, including spoils source and storage areas, are provided with the road designs, as necessary.

Where safety objectives can be met. As applicable, Kerr-McGee may use unimproved and/or two-track roads for lease operations, to lessen total disturbance.

Road designs will be based on the road safety requirements, traffic characteristics, environmental conditions, and the vehicles the road is intended to carry. Generally, newly constructed unpaved lease roads will be crowned and ditched with the running surfaces of the roads approximately 12-18 feet wide and a total road corridor width not to exceed 45 feet, except where noted in the road design for a specific project. Maximum grade will generally not exceed 8%. Borrow ditches will be back sloped 3:1 or less. Construction BMPs will be employed to control onsite and offsite erosion.

Where topography would direct storm water runoff to an access road or well pad, drainage ditches or other common drainage control facilities, such as V- or wing-ditches, will be constructed to divert surface water runoff. Drainage features, including culverts, will be constructed or installed prior to commencing other operations, including drilling or facilities placement. Riprap will be placed at the inlet and outlet at the culvert(s), as necessary.

Prior to construction, new access road(s) will be staked according to the requirements of OSO 1. Construction activity will not be conducted using frozen or saturated materials or during periods when significant watershed damage (e.g. rutting, extensive sheet soil erosion, formation of rills/gullies, etc.) is likely to occur. Vegetative debris will not be placed in or under fill embankments.

New road maintenance will include, but is not limited to, blading, ditching, culvert installation and cleanout, gravel surfacing where excessive rutting or erosion may occur and dust control, as necessary to ensure safe operating conditions. All vehicular traffic, personnel movement, construction/restoration operations will be confined to the approved area and to existing roadways and/or access routes.

Snow removal will be conducted on an as-needed basis to accommodate safe travel. Snow removal will occur as necessary throughout the year, as will necessary drainage ditch construction. Removed snow may be stored on permitted well pads to reduce hauling distances and/or at the aerial extent of approved disturbance boundaries to facilitate snow removal for the remainder of the season.

If a county road crossing or encroachment permit is needed, it will be obtained prior to construction.

No new access road is proposed for this well pad.

MU 921-22M2D-HZ/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22M Pad Surface Use Plan of Operations 3 of 11

#### C. Location of Existing Wells:

A) Refer to Topo Map C.

#### D. Location of Existing and/or Proposed Facilities:

This pad will expand the existing pad for the NBU 193, which is a producing gas well according to Utah Division of Oil, Gas and Mining (UDOGM) records on November 7, 2011. Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee Oil and Gas Onshore LP (Kerr-McGee).

Should the well(s) prove productive, production facilities will be installed on the disturbed portion of each well pad. A berm will be constructed completely around production components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will generally be constructed of compacted subsoil or corrugated metal, and will hold the capacity of the largest tank and have sufficient freeboard to accommodate a 25 year rainfall event. This includes pumping units. Aboveground structures constructed or installed onsite for 6 months or longer, will be painted a flat, non-reflective, earth-tone color chosen at the onsite (typically Shadow Gray). A production facility layout is provided as part of a project-specific APD, ROW or NOS submission.

## **GAS GATHERING**

Please refer to Topo D2- Pad and Pipeline Detail.

The gas gathering pipeline material: Steel line pipe. Surface = Bare pipe. Buried = Coated with fusion bonded epoxy coating (or equivalent). The total gas gathering pipeline distance from the meter to the tie in point is  $\pm 615$ ° and the individual segments are broken up as follows:

The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe.

±615' (0.1 miles) – Section 22 T9S R21E (SW/4) – On-lease UTU010950A Ute Indian Tribe surface, New 8" buried gas gathering pipeline from the meter to the proposed 16" gas pipleine- ROW in progress. Please refer to Topo D2 - Pad and Pipeline Detail.

## LIQUID GATHERING

Please refer to Topo D2- Pad and Pipeline Detail.

The total liquid gathering pipeline distance from the separator to the tie in point is  $\pm 615$ ' and the individual segments are broken up as follows:

The following segments will require a ROW to be submitted under a different cover to the Ute Indian Tribe.

±615' (0.1 miles) – Section 22 T9S R21E (SW/4) – On-lease UTU010950A Ute Indian Tribe surface, New 6" buried liquid gathering pipeline from the separator to the proposed 6" liquid pipeline- ROW in progress. Please refer to Topo D2 - Pad and Pipeline Detail.

### **Pipeline Gathering Construction**

Gathering (pipeline) infrastructure will be utilized to collect and transport gas and fluids from the wells which are owned and operated by Kerr McGee. Gas gathering pipeline(s,) gas lift, or liquids pipelines may be constructed to lie on the surface or be buried. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. The area of disturbance during construction from the edge of road or well pad will typically be 30' in width. Where pipelines run cross country, the width of disturbance will typically be 45 ft for buried lines and 30 ft for surface lines. In addition, Kerr-McGee requests for a permanent 30' disturbance width that will be maintained for the portion adjacent to the road. The need for the 30' permanent disturbance width is for maintenance and repairs. Cross country permanent disturbance width also are required to be 30ft.

MU 921-22M2D-HZ/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22M Pad Surface Use Plan of Operations 4 of 11

Above-ground installation will generally not require clearing of vegetation or blading of the surface, except where safety considerations necessitate earthwork. In some surface pipeline installation instances pipe cannot be constructed where it will lay. In these cases where an above-ground pipeline is constructed parallel and adjacent to a road, it will be welded/fused on the road and then lifted from the road to the pipeline route. In other cases where a pipeline route is not parallel and adjacent to a road (cross-country between sites), it will be welded/fused in place at a well pad, access road, or designated work area and pulled between connection locations with a suitable piece of equipment.

Buried pipelines will generally be installed parallel and adjacent to existing and/or newly constructed roads and within the permitted disturbance corridor. Buried pipelines may vary from 2 inches (typically fuel gas lines) to 24 inches (typically transportation lines) in diameter, but 6 to 16 inches is typical for a buried gas line. The diameter of liquids pipelines may vary from 2 inches to 12 inches, but 6 inches is the typical diameter. Gas lift lines may vary from 2 to 12 inches in diameter, but 6-inch diameter pipes are generally used for gas lift. If two or more pipelines are present (gas gathering, gas lift, and fluids), they will share a common trench where possible.

Typically, to install a buried pipeline, topsoil will be removed, windrowed and placed on the non-working side of the route for later reclamation. Because working room is limited, the spoil may be spread out across the working side and construction will take place on the spoil. The working side of the corridor will be used for pipe stringing, bending, welding and equipment travel. Small areas on the working side displaying ruts or uneven ground will be groomed to facilitate the safe passage of equipment. After the pipelines are installed, spoil will be placed back into the trench, and the topsoil will be redistributed over the disturbed corridor prior to final reclamation. Typical depth of the trench will be 6 feet, but depths may vary according to site-specific conditions (presence of bedrock, etc.). The proposed trench width for the pipeline would range from 18-48 inches.

The pipeline will be welded along the proposed route and lowered into place. Trenching equipment will cut through the soil or into the bedrock and create good backfill, eliminating the need to remove large rocks. The proposed buried pipeline will be visually and radiographically inspected and the entire pipeline will be pneumatically or hydrostatically tested before being placed into service. Routine vehicle traffic will be prevented from using pipeline routes as travel ways by posting signs at the route's intersection with an access road.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

If pipelines or roads encounter a drainage that could be subject to flooding or surface water during extreme precipitation events, Kerr-McGee will apply all applicable Army Corps mandates as well as the BLM's Hydraulic Considerations for Pipeline Crossings of Stream Channels (BLM Technical Note 423, April 2007). In addition, all stream and drainage crossings will be evaluated to determine the need for stream alteration permits from the State of Utah Division of Water Rights and if necessary, required permits will be secured. Similarly, where a road or pipeline crossing exists the pipe will be butt welded and buried to a depth between 24 and 48 inches or more. Dirt roads will be cut and restored to a condition equivalent to the existing condition. All Uintah County road encroachment and crossing permits, where applicable, will be obtained prior to crossing construction. In no case will pressure testing of pipelines result in discharge of liquids to the surface.

Pipeline signs will be installed along the route to indicate the pipeline proximity, ownership, and to provide emergency contact phone numbers. Above ground valves and lateral T's will be installed at various locations for production integrity and safety purposes.

Upon completion of the proposed buried pipeline, the entire area of disturbance will be reclaimed to the standards proposed in the Green River District Reclamation Guidelines. Please refer to section J for more details regarding final reclamation.

When no longer deemed necessary by the operator, Kerr-McGee or it's successor will consult with the Vernal BIA Office before terminating of the use of the pipeline(s).

#### The Anadarko Completions Transportation System (ACTS) information:

Kerr-McGee will use either a closed loop drilling system that will require one pit and one storage area to be constructed on the drilling pad or a traditional drilling operation with one pit. The storage area will be used to contain only the de-watered drill cuttings and will be lined and reclaimed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit is lined and will be used for the wells drilled on the pad or used as part of our Anadarko Completions Transportation (ACTS) system which is discussed in more detail below. Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completion pit.

MU 921-22M2D-HZ/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22M Pad Surface Use Plan of Operations 5 of 11

If Kerr-McGee does not use a closed loop system, it will construct a drilling reserve pit to contain drill cuttings and for use in completion operations. Depending on the location of the pit, its relation to future drilling locations, the reserve/completion pit will be utilized for the completion of the wells on that pad and/or be used as part of our ACTS system.

Kerr-McGee will use ACTS to optimize the completion processes for multiple pads across the project area which may include up to a section of development. ACTS will facilitate management of frac fluids by utilizing existing reserve pits and temporary, surface-laid aluminum liquids transfer lines between frac locations. The pit will be refurbished as follows when a traditional drill pit is used: mix and pile up drill cuttings with dry dirt, bury the original liner in the pit, walk bottom of pit with cat. Kerr-McGee will reline the pit with a 30 mil liner and double felt padding. The refurbished pit will be the same size or smaller as specified in the originally approved ROW/APD. The pit refurb will be done in a normal procedure and there will be no modification to the pit.

All four sides of the completions pit will be fenced in according to standard pit fencing procedures. Netting will be installed over all pits.

The collected hydrocarbons will be treated and sold at approved sales facilities. A loading rack with drip containment will also be installed where water trucks would unload and load to prevent damage caused from pulling hoses in and out of the pit.

ACTS will require temporarily laying multiple 6" aluminum water transfer lines on the surface between either existing or refurbished reserve pits. The temporary aluminum transfer lines will be utilized to transport frac fluid being injected and/or recovered during the completion process and will be laid adjacent to existing access roads or pipeline corridors. Upon completion of the frac operation, the liquids transfer lines will be flushed with fresh water and purged with compressed air. The contents of the transfer lines will be flushed into a water truck for delivery to another ACTS location or a reserve pit.

The temporary ACTS lines will be permitted under a separate cover to the Ute Indian Tribe.

The volume of frac fluid transported through a water transfer line will vary, but volume is projected to be approximately 1.75 bbls per 50-foot joint. Although the maximum working pressure is 125 psig, the liquids transfer lines will be operated at a pressure of approximately 30 to 40 psig. Kerr-McGee requests to keep the netted pit open for one year from first production of the first produced well on the pad. During this time the surrounding well location completion fluids may be recycled in this pit and utilized for other frac jobs in the area. After one year Kerr-McGee will backfill the pit and reclaim. If the pit is not needed for an entire year it will be backfilled and reclaimed earlier. Kerr-McGee understands that due to the temporary nature of this system, BIA considers this a casual use situation; therefore, no permanent ROW or temporary use plan will need to be issued by the BIA.

## E. Location and Types of Water Supply:

Water for drilling and completion operations will be obtained from the following sources:

Permit # 49-2307	JD Field Services	Green River- Section 15, T2N, R22E
Permit # 49-2321	R.N. Industries	White River- Section 2, T10S, R24E
Permit # 49-2319	R.N. Industries	White River- Various Sources
Permit # 49-2320	R.N. Industries	Green River- Section 33, T8S, R23E

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

## F. Construction Materials:

Construction operations will typically be completed with native materials found on location. Construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source (described in site-specific documents). No construction materials will be removed from Tribal lands without prior approval from the BIA. A source location other than an on-location construction site will be designated either via a map or narrative within the project specific materials provided to the BIA.

### G. Methods for Handling Waste:

All wastes subject to regulation will be handled in compliance with applicable laws to minimize the potential for leaks or spills to the environment. Kerr-McGee also maintains a Spill Control and Countermeasure Plan, which includes notification requirements, including the BIA, for all reportable spills of oil, produced liquids, and hazardous materials.

MU 921-22M2D-HZ/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22M Pad Surface Use Plan of Operations 6 of 11

Any accidental release, such as a leak or spill in excess of the reportable quantity, as established by 40 CFR Part 117.3, will be reported as per the requirements of CERCLA, Section 102 B. If a release involves petroleum hydrocarbons or produced liquids, Kerr-McGee will comply with the notification requirements of NTL-3A. Drill cuttings and/or drilling fluids will be contained in the reserve/frac pit whether a closed loop system is used or not. Cuttings will be buried in pit(s) upon closure. Unless specifically approved by the BIA, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface precipitation runoff into the pit (via appropriate placement of subsoil storage areas and/or construction of berms, ditches, etc.). Should unexpected liquid petroleum hydrocarbons (crude oil or condensate) be encountered during drilling, completions or well testing, liquid petroleum hydrocarbons will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by the BIA. Should timely removal not be feasible, the pit will be netted as soon as practical. Similarly, hydrocarbon removal will take place prior to the closure of the pit, unless authorization is provided for disposal via alternate pit closure methods (e.g. solidification).

The reserve and/or fracture stimulation pit will be lined with an impermeable liner. The liner will be a synthetic material 30 mil or thicker. The bottom and side walls of the pit will be void of any sharp rocks that could puncture the liner. The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. After evaporation and when dry, the reserve pit liners will be cut off, ripped and/or folded back (as safety considerations allow) as near to the mud surface as possible and buried on location or hauled to a landfill prior to backfilling the pit with a minimum of five feet of soil material.

Where necessary and if conditions (freeboard, etc.) allow, produced liquids from newly completed wells may be temporarily disposed of into pits for a period not to exceed 90 days as per Onshore Order Number 7 (OSO 7). Subsequently, permanent approved produced water disposal methods will be employed in accordance with OSO 7 and/or as described in a Water Management Plan (WMP). Otherwise, fluids disposal locations and associated haul routes, for ROW consideration, are typically depicted on Topo A of individual projects. Revisions to the water source or method of transportation will be subject to written approval from the BIA.

Any additional pits necessary for subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after one year from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse (trash and other solid waste including cans, paper, cable, etc.) generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility. Immediately after removal of the drilling rig, all debris and other waste materials not contained within trash receptacles will be collected and removed from the well location.

For the protection of livestock and wildlife, all open pits (excluding flare pits) will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet. Siphons, catchments, and absorbent pads will be installed to keep hydrocarbons produced by the drilling rig or other equipment on location from entering the reserve pit. Hydrocarbons, contaminated pads, and/or soils will be disposed of in accordance with state and federal requirements.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

MU 921-22M2D-HZ/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22M Pad Surface Use Plan of Operations 7 of 11

#### **Materials Management**

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Hazardous materials may be contained in some grease or lubricants, solvents, acids, paint, and herbicides, among others as defined above. Kerr-McGee maintains a file, per 29 CFR 1910.1200 (g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances that are used during the course of construction, drilling, completion, and production operations for this project. The transport, use, storage and handling of hazardous materials will follow procedures specified by federal and state regulations. Transportation of hazardous materials to the well location is regulated by the Department of Transportation (DOT) under 49 CFR, Parts 171-180. DOT regulations pertain to the packing, container handling, labeling, vehicle placarding, and other safety aspects.

Potentially hazardous materials used in the development or operation of wells will be kept in limited quantities on well sites and at the production facilities for short periods of time. Chemicals meeting the criteria for being an acutely hazardous material/substance or meet the quantities criteria per BLM Instruction Memorandum No. 93-344 will not be used.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities (crude oil/condensate, produced water). They may also be kept in limited quantities on drilling sites (barite, diesel fuel, cement, cottonseed hulls etc.) for short periods of time during drilling or completion activities.

Fluids disposal and pipeline/haul routes are depicted on Topo Map A.

Any produced water separated from recoverable condensate from the proposed well will be contained in a water tank and will then be transported by pipeline and/or truck to one of the pre-approved disposal sites:

RNI in Sec. 5 T9S R22E NBU #159 in Sec. 35 T9S R21E Ace Oilfield in Sec. 2 T6S R20E MC&MC in Sec. 12 T6S R19E Pipeline Facility in Sec. 36 T9S R20E

Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E

Bonanza Evaporation Pond in Sec. 2 T10S R23E

Or to one of the following Kerr-McGee active Salt Water Disposal (SWD) wells:

NBU 159 SWD in Sec. 35 T9S R21E CIGE 112D SWD in Sec. 19 T9S R21E CIGE 114 SWD in Sec. 34 T9S R21E NBU 921-34K SWD in Sec. 34 T9S R21E NBU 921-33F SWD in Sec. 34 T9S R21E

### H. Ancillary Facilities:

ancillary facilities are

## I. Well Site Layout:

The location, orientation and aerial extent of each drill pad, reserve/completion/flare pit (for closed loop or non-closed loop operations), access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure, proposed cuts and fills, and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment depending on whether a closed loop system is used. Surface distance may be less if using closed loop. But in either case, the area of disturbance will not exceed the maximum disturbance outlined in the attached exhibits.

MU 921-22M2D-HZ/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22M Pad Surface Use Plan of Operations 8 of 11

For the protection of livestock and wildlife, all open pits and cellars will be fenced to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Each well will utilize either a centralized tank battery, centralized fluids management system, or have tanks installed on its pad. Production/ Produced Liquid tanks will be constructed, maintained, and operated to prevent unauthorized surface or subsurface discharges of liquids and to prevent livestock or wildlife entry. The tanks will be kept reasonably free from surface accumulations of liquid hydrocarbons. The tanks are not to be used for disposal of liquids from additional sources without prior approval of BIA.

### J. Plans for Surface Reclamation:

The surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. Interim reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but is not limited to the re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

#### **Interim Reclamation**

Interim reclamation may include pit evaporation, fluid removal, pit solidification, re-contouring, ripping, spreading top soil, seeding, and/or weed control. Interim reclamation will be performed in accordance with OSO 1, or written notification will be provided to the BIA for approval. Where feasible, drilling locations, reserve pits, or access routes not utilized for production operations will be re-contoured to a natural appearance.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left "rough" after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit. Disposal of pit fluids and linings is discussed in Section G.

## Final Reclamation

Final reclamation will be performed for unproductive wells and after the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by Kerr-McGee. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. The BIA will be notified prior to commencement of reclamation operations. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring the site to the approximate contour that existed prior to pad construction, final grading will be conducted over the entire surface of the well site and access road. The area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers, where practical. The surface soil material will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep, where practical. The entire area will be uniformly covered with the depressions constructed perpendicular to the natural flow of water.

MU 921-22M2D-HZ/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore, L.P.

NBU 921-22M Pad Surface Use Plan of Operations 9 of 11

Reclamation of roads will be performed at the discretion of the BIA/Tribe. All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded in accordance with the seeding specifications as proposed below in "Measures Common to Interim and Final Reclamation".

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to the BIA/Tribe.

#### Measures Common to Interim and Final Reclamation

Soil preparation will be conducted using a disk for areas in need of more soil preparation following site preparation. This will provide primary soil tillage to a depth no greater than 6 inches. Prior to reseeding, compacted areas will be scarified by ripping or chiseling to loosen compacted soils, promote water infiltration, and improve soil aeration and root penetration.

Seeding will occur year-round as conditions allow and will typically be accomplished through the use of a no-till rangeland style seed drill with a "picker box" in order to seed "fluffy" seed. Where drill seeding is not the preferred method, seed will be broadcast and then raked into the ground at double the rate of drill seeding. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The seed mixes will be selected from a list provided by or approved by the BIA/Tribe or a specific seed mix will be proposed by Kerr-McGee to the BIA/Tribe and used after its approval. The selected specific seed mix for each well location and road segment will be utilized while performing interim and final reclamation for each project. All seed will be certified and tags will be maintained by Kerr-McGee. Every effort will be made to obtain "cheat grass free seed".

Seed Mix to be used for Well Site, Access Road, and Pipeline (as applicable):

Indian Ricegrass	3
Sandberg Bluegrass	0.75
Bottlebrush Squirreltail	1
Great Basin Wildrye	0.5
Crested Wheatgrass	1.5
Winterfat	0.25
Shadscale	1.5
Four-wing Saltbrush	0.75
Forage Kochia	0.25
Total	9.5

Additional soil amendments and/or stabilization may be required on sites with poor soils and/or excessive erosion potential. Where severe erosion can become a problem and/or the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. Slopes will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to: erosion control blankets, hydro-mulch, and/or bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

## Weed Control

Noxious weeds will be controlled in akk orihect areas un accordance with all applicable rules and regulations.

## K. Surface/Mineral Ownership:

Ute Indian Tribe P.O. Box 70 988 South 7500 East Annex Building Fort Duschesne, UT 84026 (435) 722-4307 United States of America Bureau of Land Management 170 South 500 East Vernal, UT 84078 (435) 781-4400  $\begin{tabular}{ll} MU 921-22M2D-HZ/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS \\ Kerr-McGee Oil Gas Onshore, L.P. \end{tabular}$ 

NBU 921-22M Pad Surface Use Plan of Operations 10 of 11

#### L. Other Information:

#### **Onsite Specifics:**

- Round corner #10
- Arch and Paleo monitoring during construction.
- · Divert drainage from east to west.

## **Cultural and Paleontological Resources**

All personnel are strictly prohibited from collecting artifacts, any paleontological specimens or fossils, and from disturbing any significant cultural resources in the area. If artifacts, fossils, or any culturally sensitive materials are exposed or identified in the area of construction, all construction operations that would affect the newly discovered resource will cease, and Kerr-McGee will provide immediate notification to the BIA.

### **Resource Reports:**

A Class I literature survey was completed in December, 2011 by Montgomery Archaeological Consultants, Inc (MOAC). For additional details please refer to report MOAC 11-406.

A paleontological reconnaissance survey was completed on August 12, 2010 by SWCA Environmental Consultants. For additional details please refer to report UT11-14314-121.

Biological field survey was completed on August 8 and 16, 2011 by Grasslands Consulting, Inc (GCI). For additional details please refer to report GCI-572.

#### **Proposed Action Annual Emissions Tables:**

Table 1: Proposed Action Annual Emissions (tons/year) <sup>1</sup>					
Pollutant	Development	Production	Total		
NOx	3.8	0.12	3.92		
CO	2.2	0.11	2.31		
VOC	0.1	4.9	5		
SO <sub>2</sub>	0.005	0.0043	0.0093		
PM <sub>10</sub>	1.7	0.11	1.81		
PM <sub>2.5</sub>	0.4	0.025	0.425		
Benzene	2.2E-03	0.044	0.046		
Toluene	1.6E-03	0.103	0.105		
Ethylbenzene	3.4E-04	0.005	0.005		
Xylene	1.1E-03	0.076	0.077		
n-Hexane	1.7E-04	0.145	0.145		
Formaldehyde	1.3E-02	8.64E-05	1.31E-02		

 $<sup>^{1}</sup>$  Emissions include 1 producing well and associated operations traffic during the year in which the project is developed

Table 2: Proposed Action versus 2012 WRAP Phase III Emissions Inventory Comparison					
Species	Proposed Action Production Emissions (ton/yr)	WRAP Phase III 2012 Uintah Basin Emission Inventory <sup>a</sup> (ton/yr)	Percentage of Proposed Action to WRAP Phase III		
NOx	19.6	16,547	0.12%		
VOC	25	127,495	0.02%		

a http://www.wrapair.org/forums/ogwg/PhaseIII\_Inventory.html

Uintah Basin Data

MU 921-22M2D-HZ/ 921-22M1BS/ 921-22M1CS/ 921-22M4BS/ 921-22M4CS Kerr-McGee Oil Gas Onshore, L.P. NBU 921-22M Pad Surface Use Plan of Operations 11 of 11

### M. Lessee's or Operators' Representative & Certification:

Laura Abrams Regulatory Analyst II Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6356 Tommy Thompson General Manager, Drilling Kerr-McGee Oil & Gas Onshore LP PO Box 173779 Denver, CO 80217-3779 (720) 929-6724

Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

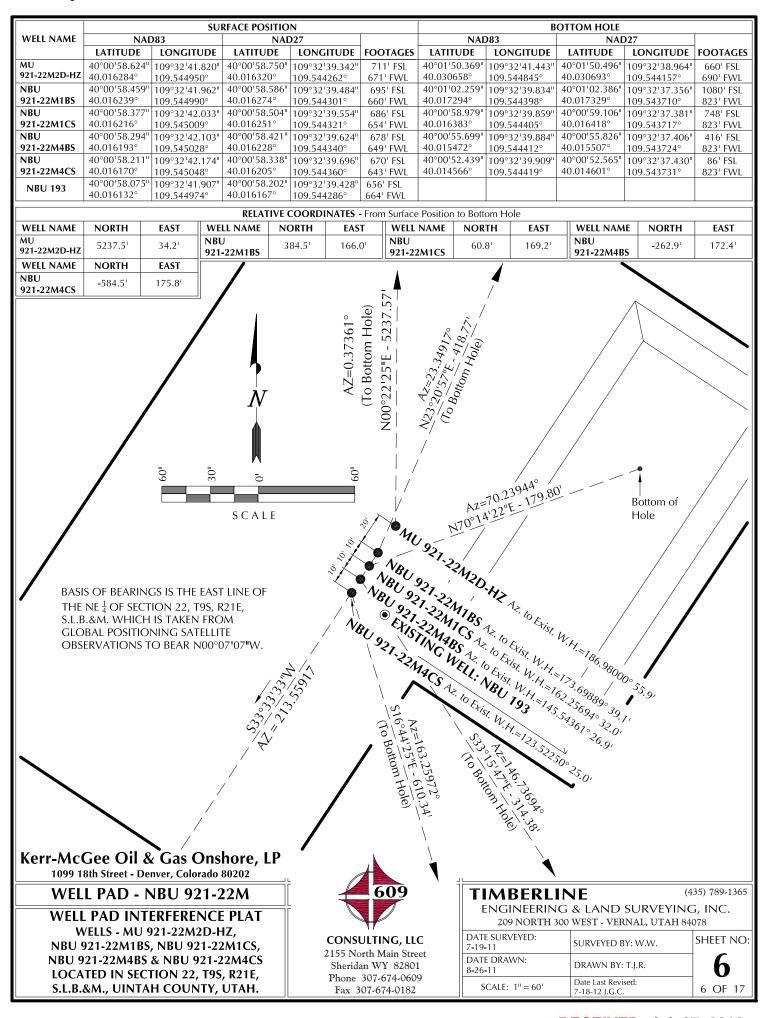
The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

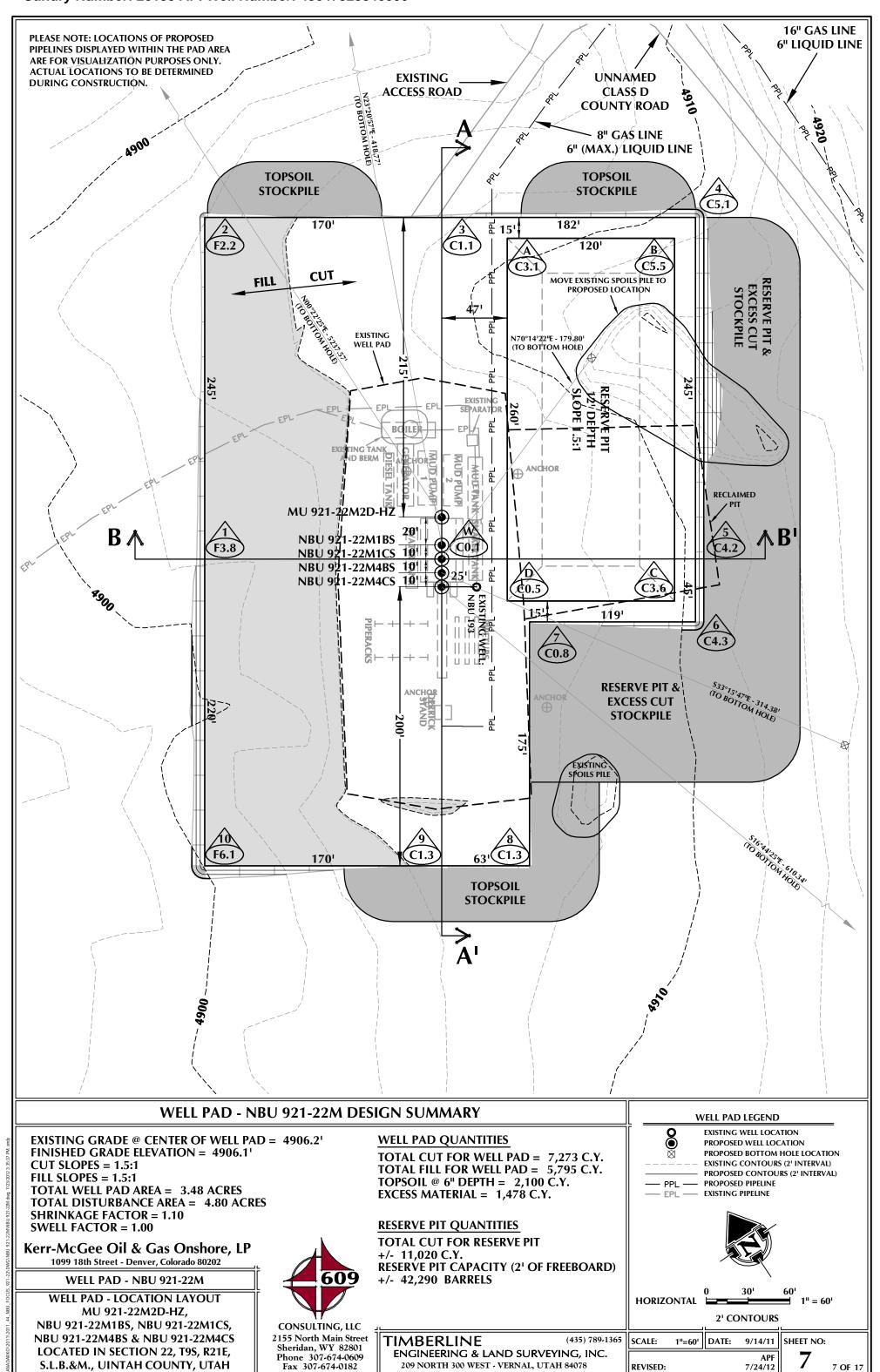
Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

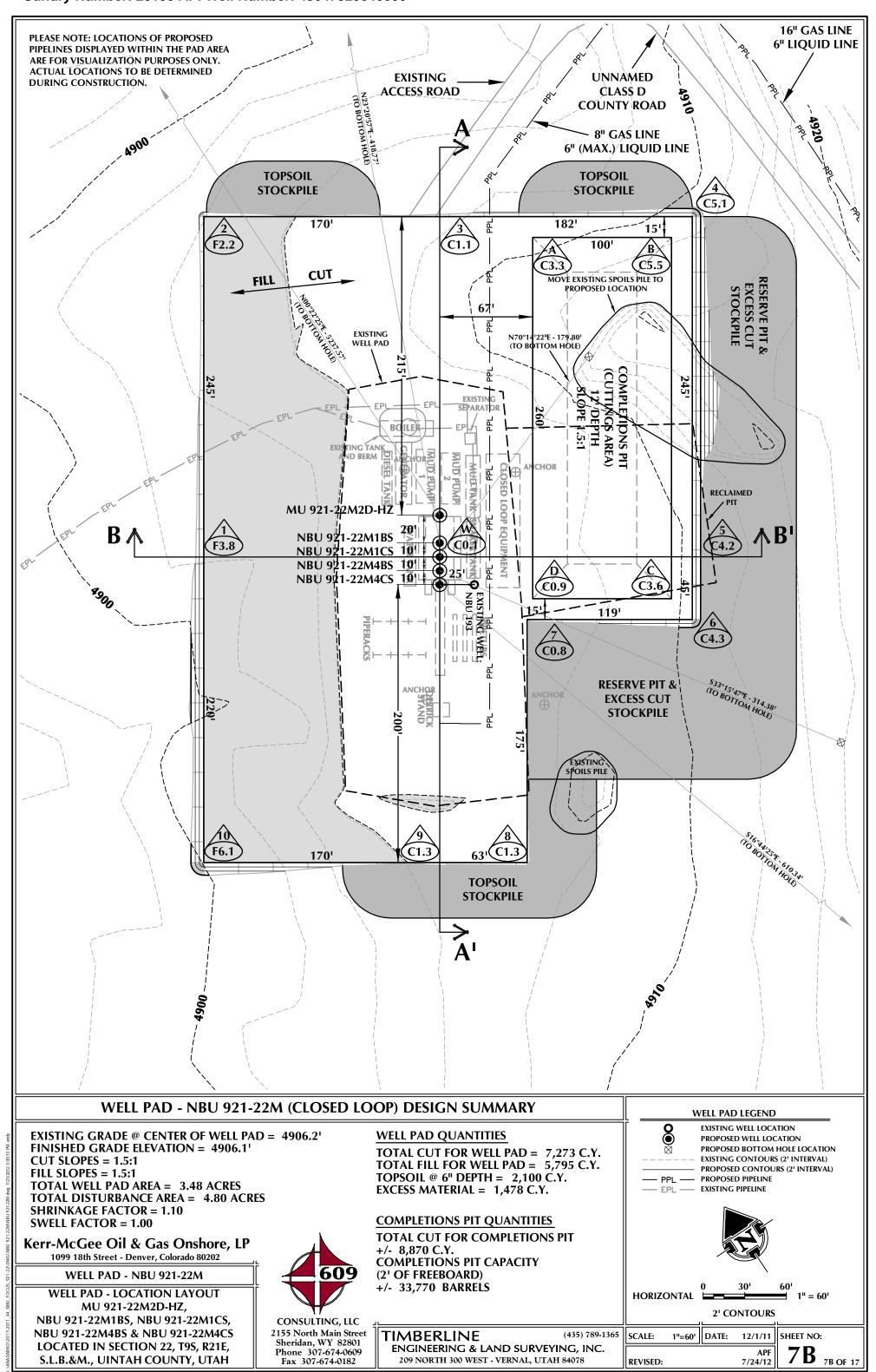
Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Bureau of Land Management Nationwide Bond WYB000291

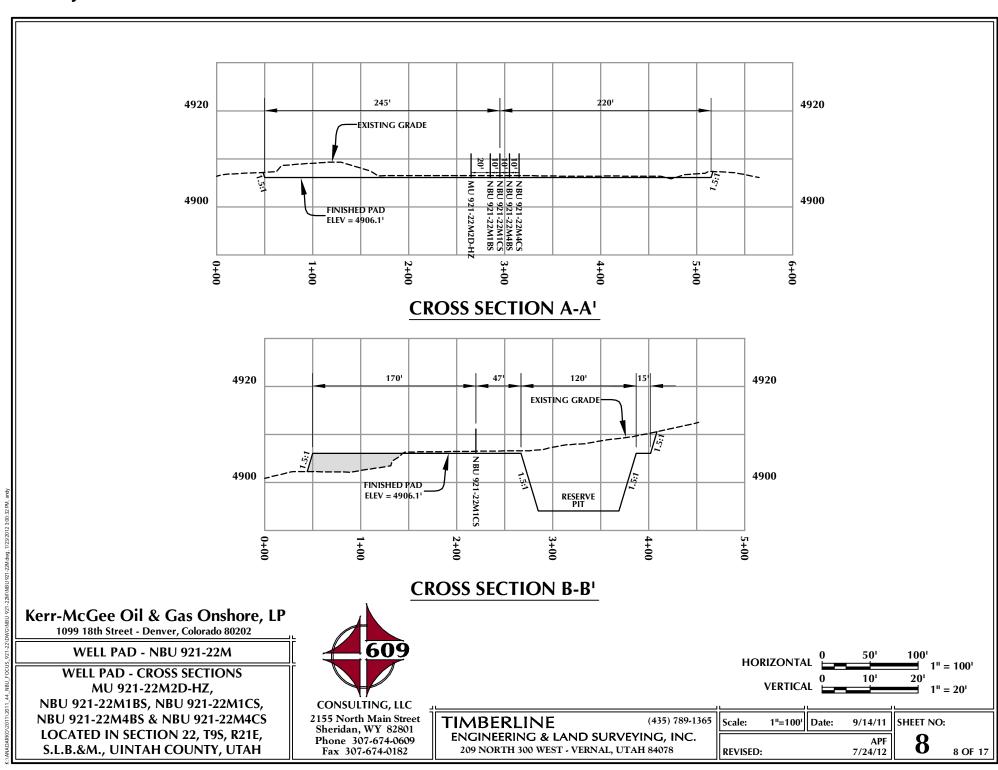
I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation, that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filling of false statements.

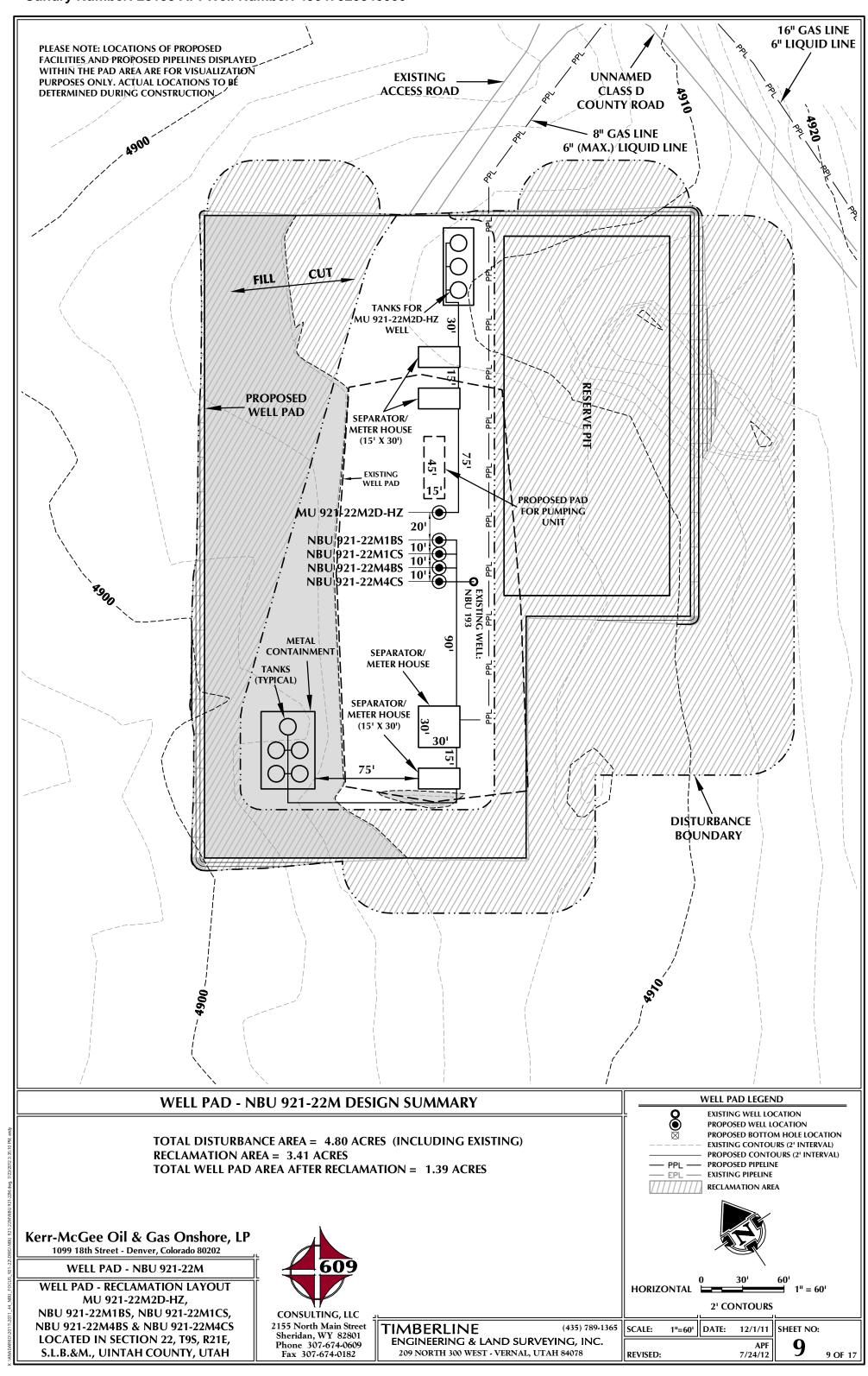
20 A A		
N. R.	July 27, 2012	
Cara Mahler	Date	











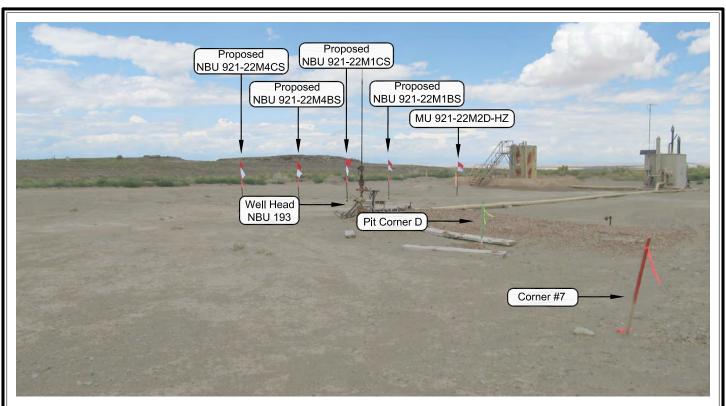


PHOTO VIEW: FROM CORNER #7 TO LOCATION STAKE

**CAMERA ANGLE: NORTHEASTERLY** 



PHOTO VIEW: FROM EXISTING ACCESS ROAD

**CAMERA ANGLE: SOUTHERLY** 

## Kerr-McGee Oil & Gas Onshore, LP 1099 18th Street - Denver, Colorado 80202

## WELL PAD - NBU 921-22M

LOCATION PHOTOS MU 921-22M2D-HZ, NBU 921-22M1BS, NBU 921-22M1CS, NBU 921-22M4BS & NB921-22M4CS, LOCATED IN SECTION 22, T9S, R21E, S.L.B.&M., UINTAH COUNTY, UTAH.



## CONSULTING, LLC 2155 North Main Street Sheridan WY 82801 Phone 307-674-0609 Fax 307-674-0182

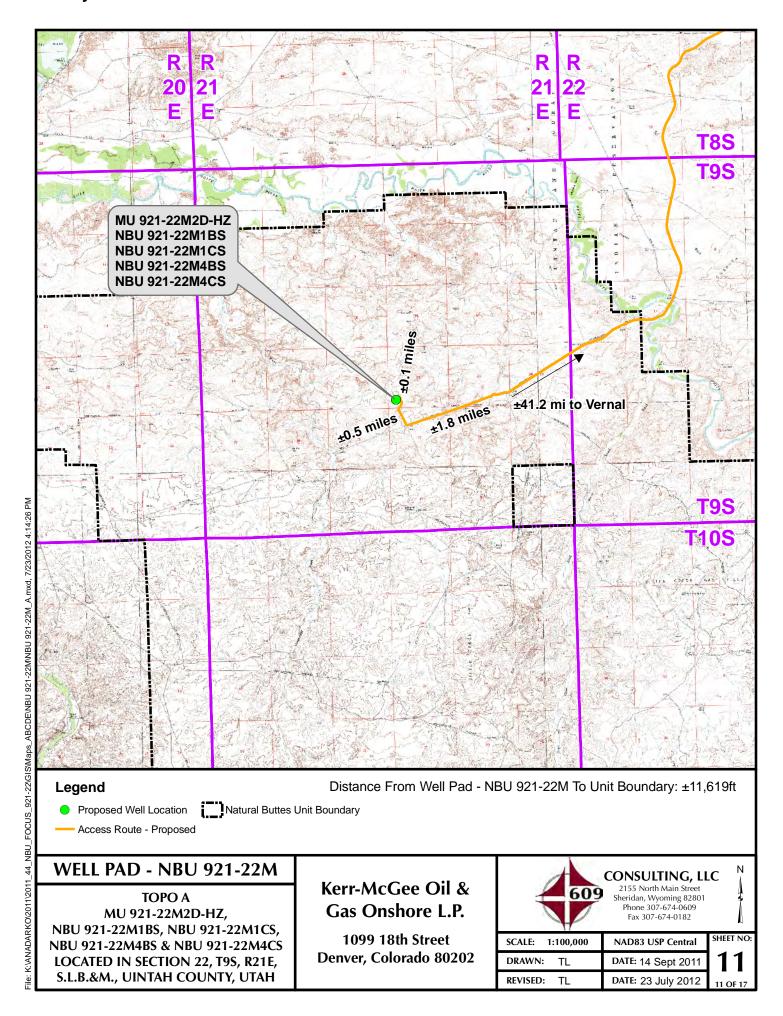
## TIMBERLINE

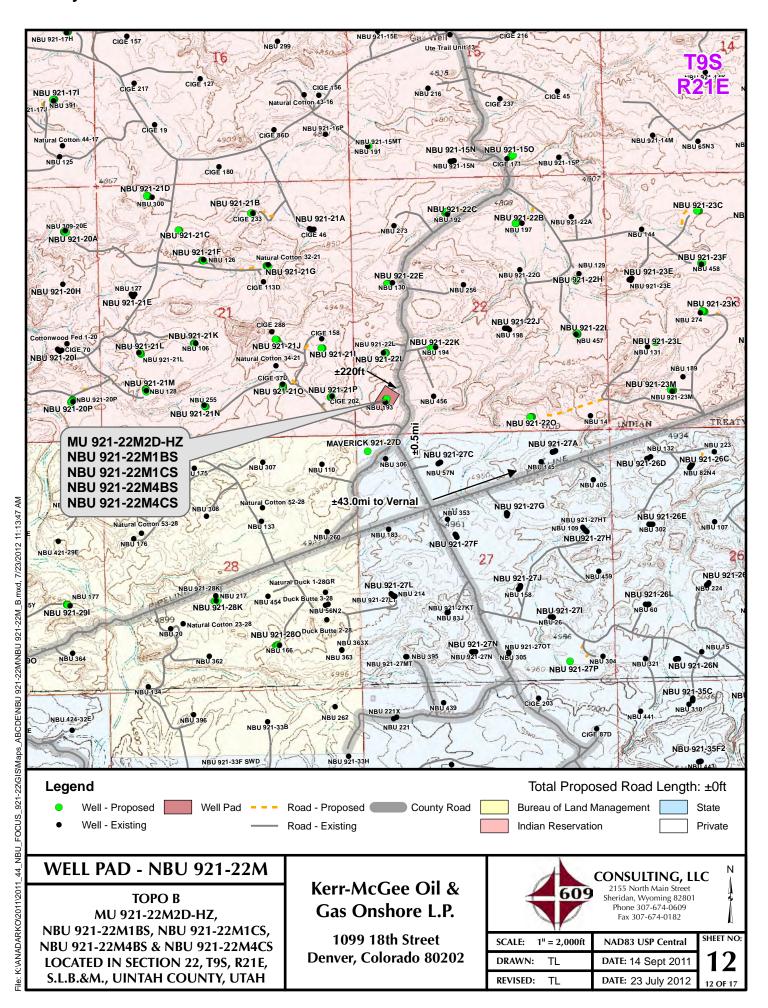
(435) 789-1365

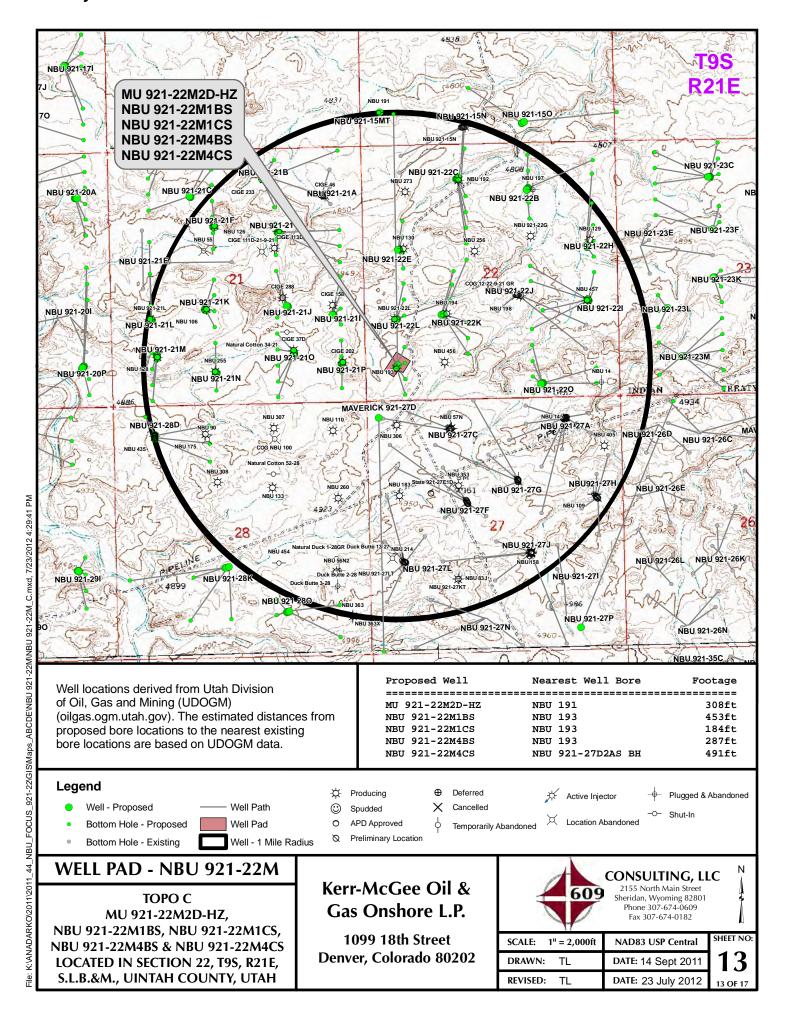
ENGINEERING & LAND SURVEYING, INC. 209 NORTH 300 WEST - VERNAL, UTAH 84078

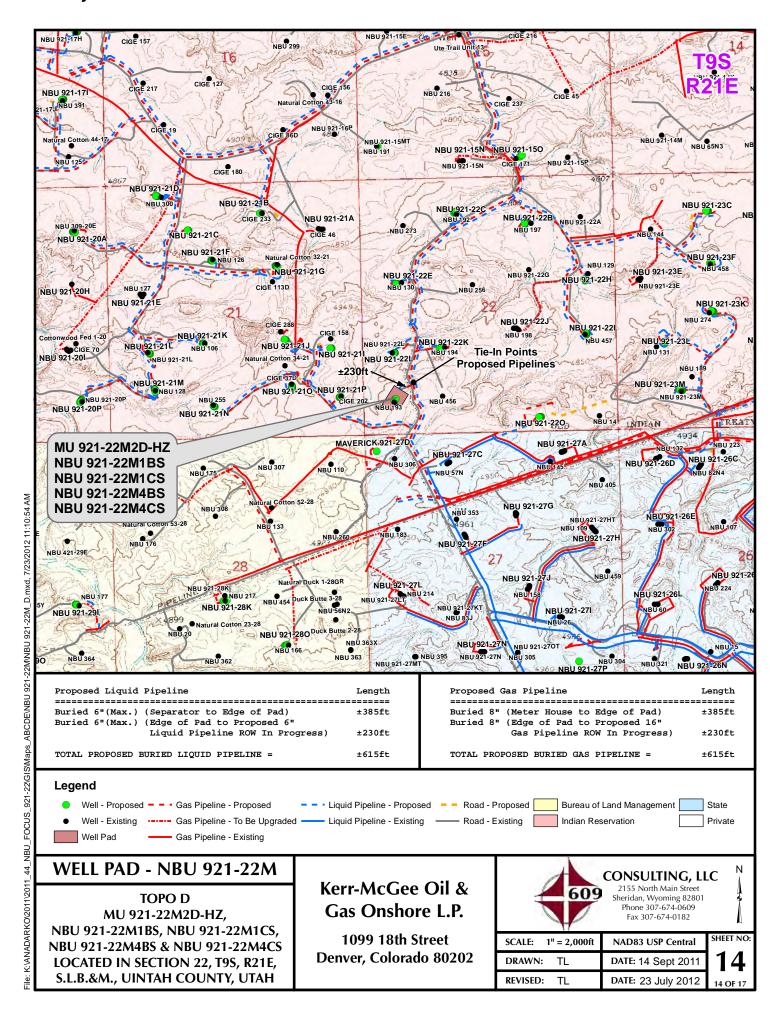
7-19-11	PHOTOS TAKEN BY: W.W.		
DATE DRAWN: 8-23-11	DRAWN BY: T.J.R.		
Date Last Revised: 7-18-12	J.G.C.		

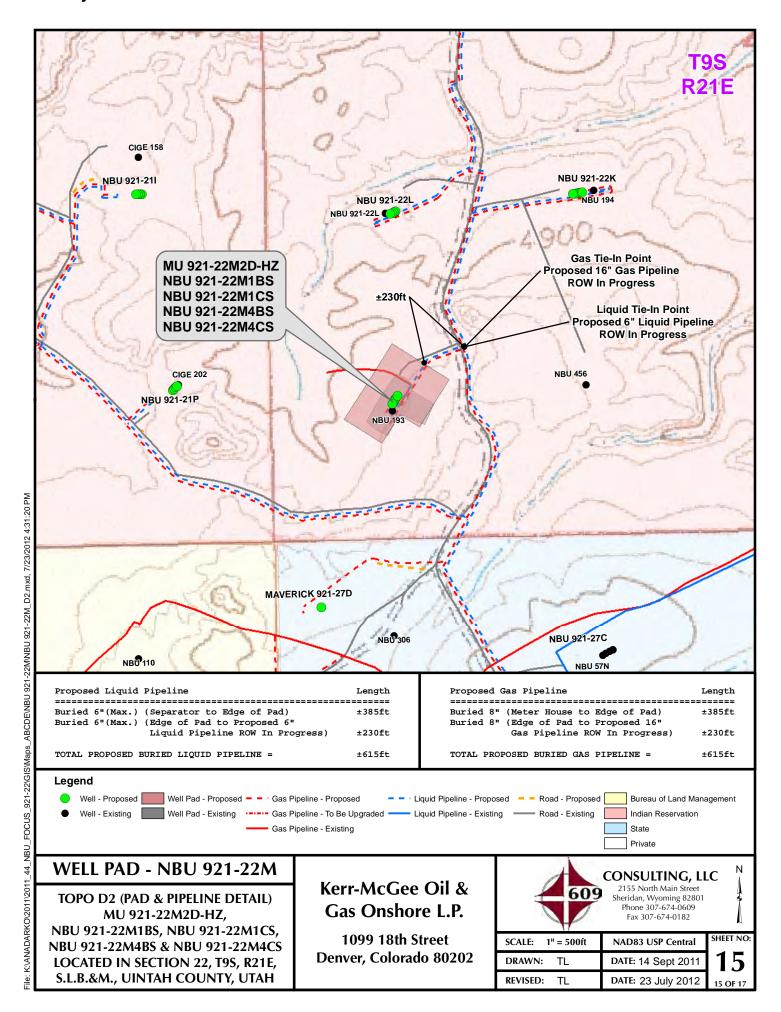
SHEET NO:

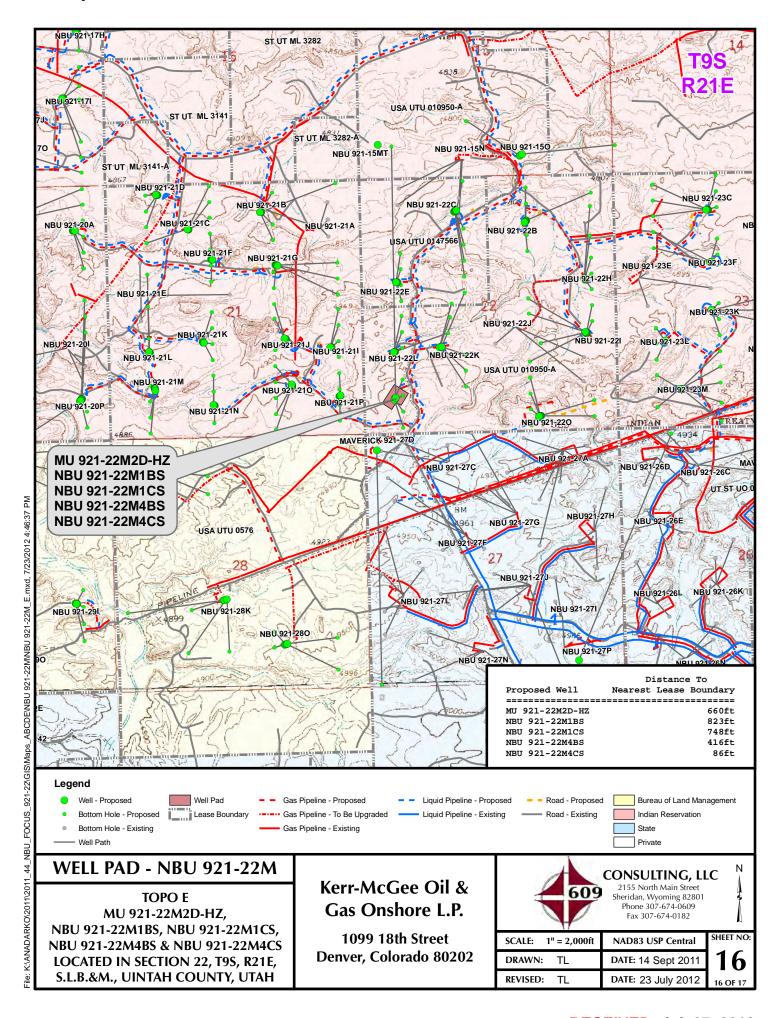












# STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

## **ENTITY ACTION FORM**

Operator:

KERR McGEE OIL & GAS ONSHORE LP

Operator Account Number: N 2995

Address:

P.O. Box 173779

city DENVER

zip 80217 state CO

Phone Number: (720) 929-6304

#### Well 1

API Number	Well	Name	QQ	Sec	Twp	Rng	County
4304752584	<b>™</b> IU 921-2	2M2DS-HZ	swsw	22	98	are	UINTAH
Action Code	Current Entity Number	New Entity Number	S	pud Da	te		tity Assignment Effective Date
В	9999	2900	8	8/18/201	2	81	28/2012
Commonte:		<del>*</del>	17.	1111	31.4	. \	<del></del>

Comments: MIRU TRIPLE A BUCKET RIG.

SPUD WELL LOCATION ON 8/18/2012 AT 07:00 HRS.

#### Wall 2

Well	Name	QQ	Sec	Twp	Rng	County
NBU 921-22	M1BS	swsw	22	98	ale	UINTAH
Current Entity Number	New Entity Number	S	pud Dat	te	4	tity Assignment Effective Date
9999	2900	8	/18/201	2	813	28 12012
	NBU 921-22 Current Entity Number	Number Number	NBU 921-22M1BS SWSW  Current Entity New Entity Number Swsw	NBU 921-22M1BS SWSW 22  Current Entity New Entity Number Spud Date	NBU 921-22M1BS SWSW 22 9S  Current Entity New Entity Number Spud Date  OC. 10.0000000000000000000000000000000000	NBU 921-22M1BS SWSW 22 9S QLE  Current Entity New Entity Number Spud Date Entity Number Supplied to the state of the state

Comments: MIRU TRIPLE A BUCKET RIG.

SPUD WELL LOCATION ON 8/18/2012 AT 09:00 HRS.

BHL: SWSW

WSMVD

#### Well 3

API Number	Well	Name	QQ	Sec	Twp	Rng	County
4304752587	NBU 921-22	M1CS	swsw	22	98	ગ્રાષ્ટ	UINTAH
Action Code	Current Entity Number	New Entity Number	S	pud Da	te		ity Assignment iffective Date
В	9999	2900	8	3/18/201	2	810	2012
0							

Comments:

MIRU TRIPLE A BUCKET RIG.

SPUD WELL LOCATION ON 8/18/2012 AT 11:00 HRS.

BHL: SWSW WSMVD

## **ACTION CODES:**

- A Establish new entity for new well (single well only)
- B Add new well to existing entity (group or unit well)
- C Re-assign well from one existing entity to another existing entity
- D Re-assign well from one existing entity to a Re-assign well from one existing entity to a
- E Other (Explain in 'comments' section)

AUG 2 / 2012

## JAIME SCHARNOWSKE

Name (Please Print) Jaim Schaumusk

Signature

Title

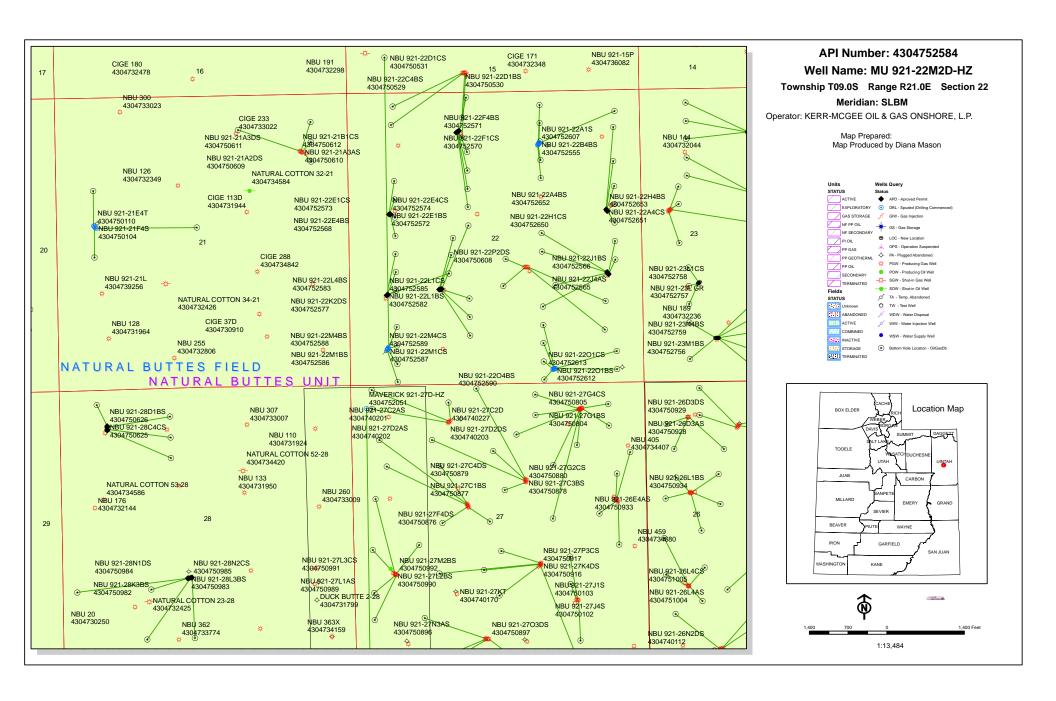
REGULATORY ANALYST

8/23/2012

Date

# Sundry Number: 29760 API Well Number: 43047525840000 FEDERAL APPROVAL OF THIS ACTION IS NECESSARY

	STATE OF UTAH		FORM 9
	DEPARTMENT OF NATURAL RESOURCE DIVISION OF OIL, GAS, AND MIN		5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 010950-A
	RY NOTICES AND REPORTS (	_	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute In
Do not use this form for pro current bottom-hole depth, FOR PERMIT TO DRILL forn	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES		
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-22M
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	NSHORE, L.P.		9. API NUMBER: 43047525840000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18tl	h Street, Suite 600, Denver, CO, 80217	<b>PHONE NUMBER:</b> 3779 720 929-6	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0711 FSL 0671 FWL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: SWSW Section:	HIP, RANGE, MERIDIAN: 22 Township: 09.0S Range: 21.0E Merid	ian: S	STATE: UTAH
11. CHEC	K APPROPRIATE BOXES TO INDICAT	E NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
Approximate date work will start:	✓ CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
9/5/2012	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION
Date of Work Completion:	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
SPUD REPORT Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
Report Date:	WILDCAT WELL DETERMINATION	OTHER	OTHER:
12. DESCRIBE PROPOSED OR	COMPLETED OPERATIONS. Clearly show a	Il pertinent details including dates, o	lepths. volumes. etc.
	s requesting to <mark>rescind the su</mark>		Approved by the
	sting to change the bottom h		Utah Division of Oil, Gas and Mining
	ntal. The operator would like		
	<mark>roved APD as a vertical well</mark> , ell Name - From: MU 921-22I		Date: September 13, 2012
	ole – From: 660 FSL 690 FWI		By: Daggill
	71 FWL Section 2 T9S R21E I		35
	undersigned for any questior	ns.	
NAME (PLEASE PRINT)	PHONE NUMBE	ER   TITLE	
Jaime Scharnowske	720 929-6304	Regulartory Analyst	
SIGNATURE		DATE 0/5/2012	
N/A		9/5/2012	



	STATE OF UTAH				FORM 9
ı	DEPARTMENT OF NATURAL RESOURG DIVISION OF OIL, GAS, AND MII	-	3	1	DESIGNATION AND SERIAL NUMBER: 0950-A
SUNDR	Y NOTICES AND REPORTS	ON	WELLS	6. IF INDI Ute In	AN, ALLOTTEE OR TRIBE NAME:
Do not use this form for pro current bottom-hole depth, I FOR PERMIT TO DRILL form	posals to drill new wells, significantly reenter plugged wells, or to drill horizon n for such proposals.	deep ontal l	en existing wells below aterals. Use APPLICATION		r CA AGREEMENT NAME: AL BUTTES
1. TYPE OF WELL Gas Well					NAME and NUMBER: 21-22M
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.			<b>9. API NU</b> 430475	MBER: 525840000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	n Street, Suite 600, Denver, CO, 8021		NE NUMBER: 720 929-6	1	and POOL or WILDCAT: AL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0711 FSL 0671 FWL				COUNTY	
QTR/QTR, SECTION, TOWNSH Qtr/Qtr: SWSW Section:	HP, RANGE, MERIDIAN: 22 Township: 09.0S Range: 21.0E Meri	idian:	S	STATE: UTAH	
11. CHECI	K APPROPRIATE BOXES TO INDICA	TE N	ATURE OF NOTICE, REPOR	T, OR O	THER DATA
TYPE OF SUBMISSION			TYPE OF ACTION		
	ACIDIZE		ALTER CASING		CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS		CHANGE TUBING		CHANGE WELL NAME
	CHANGE WELL STATUS		COMMINGLE PRODUCING FORMATIONS		CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	□ F	RACTURE TREAT		NEW CONSTRUCTION
	OPERATOR CHANGE	□ Р	PLUG AND ABANDON		PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME		RECLAMATION OF WELL SITE		RECOMPLETE DIFFERENT FORMATION
Date of Spud:	Date of Spud:		SIDETRACK TO REPAIR WELL		TEMPORARY ABANDON
	TUBING REPAIR	□ v	/ENT OR FLARE		WATER DISPOSAL
DRILLING REPORT Report Date:	WATER SHUTOFF	□ s	SI TA STATUS EXTENSION		APD EXTENSION
10/1/2012	WILDCAT WELL DETERMINATION		OTHER	OTHE	
44 DESCRIPE PROPOSED OR					!
	completed operations. Clearly showne month of September 201			oi FOF	Accepted by the Utah Division of I, Gas and Mining R RECORD ONLY October 03, 2012
NAME (PLEASE PRINT)	PHONE NUME	3ER	TITLE		
Lindsey Frazier	720 929-6857		Regulatory Analyst II		
SIGNATURE N/A			<b>DATE</b> 10/1/2012		

	STATE OF UTAH		FORM 9
ι	DEPARTMENT OF NATURAL RESOURG DIVISION OF OIL, GAS, AND MII		5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 010950-A
SUNDR	RY NOTICES AND REPORTS	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute In
Do not use this form for pro current bottom-hole depth, I FOR PERMIT TO DRILL form	7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES		
1. TYPE OF WELL Gas Well	8. WELL NAME and NUMBER: NBU 921-22M		
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	NSHORE, L.P.		9. API NUMBER: 43047525840000
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	h Street, Suite 600, Denver, CO, 8021	<b>PHONE NUMBER:</b> 7 3779 720 929-6	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0711 FSL 0671 FWL			COUNTY: UINTAH
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 22 Township: 09.0S Range: 21.0E Meri	idian: S	STATE: UTAH
11. CHECH	K APPROPRIATE BOXES TO INDICA	TE NATURE OF NOTICE, REPOR	RT, OR OTHER DATA
TYPE OF SUBMISSION		TYPE OF ACTION	
	ACIDIZE	ALTER CASING	CASING REPAIR
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	☐ TEMPORARY ABANDON
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL
DRILLING REPORT Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION
10/27/2012	WILDCAT WELL DETERMINATION	OTUED	OTHER:
		OTHER	
FINISHED DRILLING CASING. RELEASEI AND CEMENT WILL E	COMPLETED OPERATIONS. Clearly show TO 5001' ON 10/26/2012. CI D H&P 318 RIG ON 10/27/20° BE INCLUDED WITH THE WEL /AITING ON FINAL COMPLETI	EMENTED PRODUCTION 12. DETAILS OF CASING L COMPLETION REPORT.	
NAME (DI EASE DDINIT)	PHONE NUME	BER TITLE	
NAME (PLEASE PRINT) Lindsey Frazier	720 929-6857	Regulatory Analyst II	
SIGNATURE N/A		<b>DATE</b> 10/29/2012	

# State of Utah - Notification Form

By BRAD PEDERS				
0988/1544	<u>)LIN</u>	FIIOHE NUMBER	<del>433-62</del>	<u>.o-</u>
Well Name/Numb	er <u>NBU</u> 921-22	M GR		
Qtr/Qtr-SE/NW Se	ection <u>36</u> Town	ship <u>9S</u> Range 2:	1E	
Lease Serial Num		A		
API Number 43-0	47-52584			
<u>Casing</u> – Time cas	sing run starts,	not cementing ti	imes.	
Production C	asing			
Other				
Date/Time <u>1</u>	0/25/2012	22:00 AM	PM 🔀	
DODE.				
BOPE Initial RODE	test at surface	casing point		
Other	lest at surface	casing point		
Date/Time		AM PM		
				RECEIVED
				OCT 2 4 2012
Rig Move	021M1DC		OI	V. OF OIL, GAS & MINING
Location To: NBU	<u>921M1BS</u>			
Date/Time <u>1</u>	0/26/2012	12:00 AM	PM 🔀	
Remarks <u>TIME I</u>	S ESTIMATED			

	STATE OF UTAH			FORM 9				
ι	DEPARTMENT OF NATURAL RESOUF DIVISION OF OIL, GAS, AND M			5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 010950-A				
SUNDR	Y NOTICES AND REPORTS	S ON	WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute In				
	posals to drill new wells, significantl reenter plugged wells, or to drill horiz n for such proposals.			7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES				
1. TYPE OF WELL Gas Well				8. WELL NAME and NUMBER: NBU 921-22M				
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.			9. API NUMBER: 43047525840000				
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	h Street, Suite 600, Denver, CO, 802	<b>NE NUMBER:</b> 9 720 929-6	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES					
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0711 FSL 0671 FWL			COUNTY: UINTAH					
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 22 Township: 09.0S Range: 21.0E Me	eridian:	S	STATE: UTAH				
11. CHECI	K APPROPRIATE BOXES TO INDICA	ATE NA	ATURE OF NOTICE, REPOR	RT, OR OTHER DATA				
TYPE OF SUBMISSION			TYPE OF ACTION					
	ACIDIZE		LTER CASING	CASING REPAIR				
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	☐ c	HANGE TUBING	CHANGE WELL NAME				
	CHANGE WELL STATUS	□ c	OMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE				
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	F	RACTURE TREAT	NEW CONSTRUCTION				
	OPERATOR CHANGE	□ P	LUG AND ABANDON	PLUG BACK				
SPUD REPORT	PRODUCTION START OR RESUME	□ R	ECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION				
Date of Spud:	REPERFORATE CURRENT FORMATION		IDETRACK TO REPAIR WELL	TEMPORARY ABANDON				
	TUBING REPAIR		ENT OR FLARE	WATER DISPOSAL				
✓ DRILLING REPORT	WATER SHUTOFF		I TA STATUS EXTENSION	APD EXTENSION				
Report Date: 12/3/2012		□ »	I TA STATUS EXTENSION					
	WILDCAT WELL DETERMINATION	o	THER	OTHER:				
No Activity for t	COMPLETED OPERATIONS. Clearly show he month of November 201	12. W	ell TD at 5,001.	Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY December 04, 2012				
NAME (PLEASE PRINT) Jaime Scharnowske	<b>PHONE NUM</b> 720 929-6304	/IBER	<b>TITLE</b> Regulartory Analyst					
SIGNATURE N/A			<b>DATE</b> 12/3/2012					

	STATE OF UTAH		FORM 9				
l I	DEPARTMENT OF NATURAL RESOUR DIVISION OF OIL, GAS, AND MI		5.LEASE DESIGNATION AND SERIAL NUMBER: UTU 010950-A				
SUNDR	Y NOTICES AND REPORTS	ON WELLS	6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Ute In				
	posals to drill new wells, significantly reenter plugged wells, or to drill horize n for such proposals.		7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES				
1. TYPE OF WELL Gas Well			8. WELL NAME and NUMBER: NBU 921-22M				
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.		9. API NUMBER: 43047525840000				
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th	h Street, Suite 600, Denver, CO, 8021	<b>PHONE NUMBER:</b> 7 3779 720 929-	9. FIELD and POOL or WILDCAT: 5NATERAL BUTTES				
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0711 FSL 0671 FWL			COUNTY: UINTAH				
QTR/QTR, SECTION, TOWNSH	HIP, RANGE, MERIDIAN: 22 Township: 09.0S Range: 21.0E Mer	idian: S	STATE: UTAH				
11. CHECI	K APPROPRIATE BOXES TO INDICA	TE NATURE OF NOTICE, REPOR	RT, OR OTHER DATA				
TYPE OF SUBMISSION		TYPE OF ACTION					
	ACIDIZE	ALTER CASING	CASING REPAIR				
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS	CHANGE TUBING	CHANGE WELL NAME				
	CHANGE WELL STATUS	COMMINGLE PRODUCING FORMATIONS	CONVERT WELL TYPE				
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	FRACTURE TREAT	NEW CONSTRUCTION				
	OPERATOR CHANGE	PLUG AND ABANDON	PLUG BACK				
SPUD REPORT	PRODUCTION START OR RESUME	RECLAMATION OF WELL SITE	RECOMPLETE DIFFERENT FORMATION				
Date of Spud:	REPERFORATE CURRENT FORMATION	SIDETRACK TO REPAIR WELL	TEMPORARY ABANDON				
	TUBING REPAIR	VENT OR FLARE	WATER DISPOSAL				
DRILLING REPORT Report Date:	WATER SHUTOFF	SI TA STATUS EXTENSION	APD EXTENSION				
1/3/2013	WILDCAT WELL DETERMINATION	OTHER	OTHER:				
		U OTREK	<u>'</u>				
	COMPLETED OPERATIONS. Clearly show the month of December 201		Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY January 03, 2013				
NAME (PLEASE PRINT) Lindsey Frazier	PHONE NUMI 720 929-6857	BER TITLE Regulatory Analyst II					
SIGNATURE	120 929-0001	DATE					
N/A		1/3/2013					

Sundry Number: 33799 API Well Number: 43047525840000

	STATE OF UTAH				FO	RM 9	
[	DEPARTMENT OF NATURAL RESOUR DIVISION OF OIL, GAS, AND MI		i	5.LEASE D UTU 010	ESIGNATION AND SERIAL NUM	BER:	
SUNDR	Y NOTICES AND REPORTS	ON	WELLS	6. IF INDIA Ute In	N, ALLOTTEE OR TRIBE NAME	:	
	posals to drill new wells, significantly reenter plugged wells, or to drill horiz n for such proposals.			7.UNIT or CA AGREEMENT NAME: NATURAL BUTTES			
1. TYPE OF WELL Gas Well				8. WELL NA NBU 921	AME and NUMBER: -22M		
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ON	ISHORE, L.P.			9. API NUMBER: 43047525840000			
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th	h Street, Suite 600, Denver, CO, 802	NE NUMBER: 9 720 929-6	9. FIELD ai 5NIÁTUERAL	nd POOL or WILDCAT: BUTTES			
4. LOCATION OF WELL FOOTAGES AT SURFACE: 0711 FSL 0671 FWL			COUNTY: UINTAH				
QTR/QTR, SECTION, TOWNSH	<b>HIP, RANGE, MERIDIAN:</b> 22 Township: 09.0S Range: 21.0E Mer	ridian:	S	STATE: UTAH			
11. CHECI	K APPROPRIATE BOXES TO INDICA	ATE N	ATURE OF NOTICE, REPOR	T, OR OTI	HER DATA		
TYPE OF SUBMISSION			TYPE OF ACTION				
	ACIDIZE		ALTER CASING	c	ASING REPAIR		
NOTICE OF INTENT Approximate date work will start:	CHANGE TO PREVIOUS PLANS		CHANGE TUBING	□ c	HANGE WELL NAME		
	CHANGE WELL STATUS		COMMINGLE PRODUCING FORMATIONS	□ c	ONVERT WELL TYPE		
SUBSEQUENT REPORT Date of Work Completion:	DEEPEN	□ F	RACTURE TREAT	□ N	EW CONSTRUCTION		
	OPERATOR CHANGE	F	PLUG AND ABANDON	P	LUG BACK		
SPUD REPORT	✓ PRODUCTION START OR RESUME	□ F	RECLAMATION OF WELL SITE	□ R	ECOMPLETE DIFFERENT FORMATION		
Date of Spud:	REPERFORATE CURRENT FORMATION		SIDETRACK TO REPAIR WELL	П	EMPORARY ABANDON		
	TUBING REPAIR		ENT OR FLARE		ATER DISPOSAL		
DRILLING REPORT     Report Date:	WATER SHUTOFF		SI TA STATUS EXTENSION		PD EXTENSION		
1/11/2013			NTUED		i		
	WILDCAT WELL DETERMINATION		OTHER	OTHER:	<u> </u>		
The subject wel	COMPLETED OPERATIONS. Clearly show I was placed on production I History will be submitted very report.	n on	01/11/2013. The	oil,	mes, etc. ccepted by the tah Division of Gas and Mining RECORD ONL) nuary 25, 2013	•	
NAME (PLEASE PRINT) Lindsey Frazier	<b>PHONE NUM</b> 720 929-6857	BER	TITLE Regulatory Analyst II				
SIGNATURE N/A			<b>DATE</b> 1/14/2013				

Form 3160-4 (August 2007)

# UNITED STATES DEPARTMENT OF THE INTERIOR

FORM APPROVED OMB No. 1004-0137

,						NAGEME									y 31, 2010
	WELL (	COMPL	ETION O	R REC	OMPL	ETION F	REPOR	RT A	ND LOG	ì			ease Serial 1 ITU010950		
la. Type o	_	Oil Well	_	Well [	Dry	Other						6. If	Indian, Allo	ottee o	r Tribe Name
b. Type o	of Completion	Othe		☐ Work	Over	☐ Deepen	P	lug E	Back 🔲	Diff. R	esvr.	7. U	nit or CA A	greem	ent Name and No.
2. Name of KERR	f Operator MCGEE OIL	& GAS	ONSHORE		Conta	ct: LINDS	EY A FR	RAZIE	R			8. L	ease Name a	and We	ell No.
3. Address	PO BOX	173779		wich. mi	docy.naz	3	a. Phone	No. (	(include area	code)	-		PI Well No.		
4. Location	DENVER, n of Well (Re			d in accor	rdance wit		h: 720-9		5857			10 1	Ziald and Da	.11	43-047-52584
At surfa			_ 671FWL 4				_	iiis)				N	ATURAL E	BUTTE	
At top r	orod interval i							at 10	ng <i>544</i> 950 t	Wlon		11. S	Sec., T., R., r Area Sec	M., or 22 T	Block and Survey 9S R21E Mer SLB
At total			SL 671FW						00.044000	VV LOII			County or Pa	arish	13. State UT
14. Date Sp 08/18/2	pudded		15. Da	ate T.D. R /27/2012	teached	, 100.014	16. Da	ate C		ly to Pr	od.		Elevations (I	DF, KI 80 KB	B, RT, GL)*
18. Total I	Depth:	MD TVD	5001 4999	]	9. Plug E	ack T.D.:	MD TVE		4965 4963		20. Dep	th Bri	dge Plug Se		MD TVD
21. Type E HDIL/Z	Electric & Oth DL/CNGR-C	er Mechai CBL/GR/0	nical Logs Ru CCL/TEMP	un (Subm	it copy of	each)	<b>-</b>			Was D	ell cored		<b>⊠</b> No	Yes	s (Submit analysis) s (Submit analysis)
23. Casing a	nd Liner Reco	ord (Repo	ort all strings	set in wel	<i>II</i> )	<del></del> .				Direct	ional Sur	vey?	□ No	Yes Yes	(Submit analysis)
Hole Size	Size/G		Wt. (#/ft.)	Тор		tom Stag	ge Cemen	ter	No. of Sks	. &	Slurry	Vol.			
	<del> </del>			(MD)		-	Depth	$\dashv$	Type of Cer		(BB	L)	Cement 7	op*	Amount Pulled
20.000		000 STL 25 IJ-55	36.7 28.0		0	40 2859		+		28 605			<del></del>	0	
7.875		500 I-80	11.6		0	4988		+	<del></del>	716				130	
	<del> </del>														
24. Tubing	Record				<u> </u>										
	Depth Set (M	(D) P	acker Depth (	(MD)	Size	Depth Set	(MD)	Pac	ker Depth (N	MD)	Size	De	pth Set (MI	<u>"</u>	Packer Depth (MD)
2.375		4784					(1)12)		and Dopas (1	.,,,,	- Dize		per see (IVII	<del>"</del>	racker Deput (WD)
25. Produci	ing Intervals					26. Perf	oration Re	ecord	l						
	ormation		Тор		Bottom	_	Perforate			$\dashv$	Size	_	lo. Holes		Perf. Status
A) DO	OUGLAS CE CARB MAF			4132 4362	4210 438				4132 TO 42 4362 TO 43		0.36			OPEI OPEI	
C)	LONG P			4551	476				4551 TO 43		0.36			OPE	
	JTELAND BU			4816	492				4816 TO 49		0.36	$\neg$		OPE	
	racture, Treat		ment Squeeze	, Etc.											
	Depth Interva		216 PUMP 3	01BBI S S	SI ICK HSC	1-1 000BBI	S V I INIZ		ount and Typ			2741	4 OTA OF C.	200.07	C L D CNID)
			388 PUMP 1							20/40	SAND (T	JIAL	4 STAGES;	308,97	6 LB SND)
			764 PUMP 2							BS 20/4	10 SAND				
			929 PUMP 3	70 BBLS	SLICK H20	O; 1,984 BE	LS X-LIN	K GE	L; 8140 LBS	100 ME	SH SAN	D & 10	8,568 LBS	20/40 \$	SAND
	tion - Interval		1							γ					
Date First Produced	Test Date	Hours Tested		Oil BBL	Gas MCF	Water BBL	Co	il Gravi orr. AP		Gas Gravity		Product	on Method		
01/11/2013 Choke		24	2417	315.0	0.0		6.0	0"		777. D. Cr			FLOV	/S FRO	OM WELL
Size	Tbg. Press. Flwg. 50 SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Ra	as;Oil atio		Well Sta					
28a. Produc	ction - Interva	900.0	<u> </u>	315	0		6			l Po	OW.				
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL		il Gravi orr. AP		Gas Gravity		Product	on Method	RE	CEIVED
Choke Size	Tbg. Press. Flwg.	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL		as:Oil		Well Sta	ntus			FEB	2 0 2013

28h Prod	uction - Interv	al C				•••						
Date First	Test	Hours	Test	Oil	Gas	Water	Oil Gravity	<del></del>	C	Production Method	··	
Produced	Date	Tested	Production	BBL	MCF	BBL	Corr. API		Gas Gravity			
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio		Well Status	atus		
28c. Prod	uction - Interv	al D			•	•	<u> </u>					<del></del>
Date First Produced	Test Date	Hours Tested	Test Production	Oil BBL	Gas MCF	Water BBL	Oil Gravity Corr. API		Gas Gravity	Production Method	· .	
Choke Size	Tbg. Press. Flwg. SI	Csg. Press.	24 Hr. Rate	Oil BBL	Gas MCF	Water BBL	Gas:Oil Ratio		Well Status			
29. Dispo	sition of Gas(S	Sold, used j	for fuel, vent	ed, etc.)				!				
30. Sumn	nary of Porous	Zones (Inc	lude Aquife	rs):					31. For	mation (Log) Markers		
tests,	all important a including dept ecoveries.	zones of po h interval t	ested, cushic	ontents there on used, time	eof: Cored in tool open,	ntervals and a flowing and	all drill-ster shut-in pres	n ssures				
	Formation Top Bottom Descriptions, Contents, etc.								Name	Me	Top eas. Depth	
The factors and the surfactors and the surfactors and the surfactors are surfactors and the surfactors and the surfactors are surfactors are surfactors are surfactors and the surfactors are surfa	litional remarks (include plugging procedure):  first 210 ft. of the surface hole was drilled with a 12? in. bit. The remainder of face hole was drilled with an 11 in. bit. DQX csg was run from surface to 4965 ft;						ft; ell:	MA DC CA LO UT	RD'S NEST IHOGANY IUGLAS CREEK RB MARKER NG POINT ELAND BUTTE ASATCH		1565 2365 4024 4361 4505 4814 4933	
be pr	#1 from 4358 ovided when t & final surve	available.	It and core Attached is	e #2 from 4 s the chron	825 ft. to 49 ological we	918 ft. Core	e analysis erforation	will				
33. Circle	enclosed attac	chments:										
	ectrical/Mecha		(1 full set re	q'd.)	:	2. Geologic	Report		3. DST Re	port 4.	Directional Su	urvey
5. Su	ndry Notice fo	r plugging	and cement	verification	•	6. Core Ana	lysis		7 Other:	•		•
34. I here	by certify that	the forego	Electi	ronic Subm	ission #1986	610 Verified	by the BL	M Well In	m all available formation Sy to the Vernal	e records (see attached stem.	instructions):	
Name	c(please print)	LINDSEY	' A FRAZIE	R			Ti	tle <u>REGU</u>	ALTORY AN	ALYST		
Signa	ture	(Electron	ic Submissi	on)			Da	ate <u>02/12/</u> 2	2013			
												<u> </u>
Title 18 U	J.S.C. Section	1001 and	Title 43 U.S.	C. Section 1	212, make i	t a crime for	any person	knowingly	and willfully	to make to any depart	ment or agenc	у

## **Operation Summary Report**

Well: NBU 921-2	22M GR F	RED			Spud Date: 9/28/2012			
Project: UTAH-L	JINTAH			Site: NBL	J 921 <b>-</b> 22N	/I PAD		Rig Name No: H&P 318/318, PROPETRO 11/11
Event: DRILLING	3			Start Date	e: 9/19/20	012	End Date: 10/27/2012	
Active Datum: R Level)	KB @4,9	30.00usft (al	oove Mean S	ea	UWI: SI	N/SW/0/9	22/0/0/26/PM/S/711/W/0/671/0/0	
Date	ALGREE 120	Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)
9/27/2012		- 18:30	5.50	MIRU	01	Α	P	10 MILE RIG MOVE / 5 JD TRUCKS & 1 TRUCK PUSHER / 2 HOW CROFT SEMI TRUCKS / 1 STALLION WINCH TRUCK, 2 PICK UPS, 5 HANDS / 5 PRO PETRO SEMI'S, 6 HANDS, 1 FORKLIFT / RELEASE TRUCKS @ 18:30
	18:30	- 23:00	4.50	MIRU	01	В	Р	INSTALL DIVERTER HEAD, RIG UP NOV EQUIPMENT, SPOT IN RIG, CATWALK & PIPE RACKS, RIG UP & PRIME PUMP INSPECT RIG, UNLOAD NEW DRILL PIPE AFTER INSPECTION18:30
	23:00	- 0:00	1.00	MIRU	21	D	Z	PIN ON FORKLIFT BROKE, WAITED FOR JD FIELD SERVICE MECHANIC
9/28/2012	0:00	- 1:30	1.50	MIRU	01	B	P	INSTALL DIVERTER HEAD, RIG UP NOV EQUIPMENT, SPOT IN RIG, CATWALK & PIPE RACKS, RIG UP & PRIME PUMP INSPECT RIG, STRAP BHA
	1:30 2:00	- 2:00	0.50	DRLSUR	06	Α _	P	PICK UP 12.25" BIT & 8" MUD MOTOR & TIH
	3:30	- 3:30 - 4:00	0.50	DRLSUR	02	B	Ρ̈́	DRL F/44' - T/210' ( 166' @ 110.6' ROP ) W.O.B 18/20K RPM 45 POWERHEAD / 83 MUD MOTOR UP/DWN/ROT 22/20/20 PSI ON/OFF 600/400 M.W. 8.4# VIS 27 TORQUE 3000/900 NOV-ONLINE TOOH WITH #1 BHA
	4:00	- 6:00	2.00	DRLSUR	06	Α	Р	TIH WITH #2 BHA W/11" BIT (
	6:00	- 12:00	6.00	DRLSUR	02	В	Р	AFTER INSPECTION )  DRL F/210' - T/1100' ( 890' @ 148.3' ROP ) W.O.B.
					_			18/20K  RPM 45 POWERHEAD / 83 MUD MOTOR  UP/DWN/ROT 55/47/50 ~ 5K DRAG  PSI ON/OFF 1200/900  M.W. 8.4# VIS 27  TORQUE 3100/1600  NOV-ONLINE  HOLE CONDITION GOOD  3' NORTH AND 1.8' EAST OF LINE  SLID 18' / 1.5%
	12:00	- 0:00	12.00	DRLSUR	02	В	P	DRL F/1100' - T/2240' ( 1140' @ 95' ) W.O.B. 18/20K RPM 45 POWERHEAD / 83 MUD MOTOR UP/DWN/ROT 70/60/65 ~ 5K DRAG PSI ON/OFF 1780/1520 M.W. 8.4# VIS 27 TORQUE ON/OFF 3000/1100 NOV-ONLINE HOLE CONDITION GOOD .25' NORTH 4' WEST OF TARGET SLID 36' / 1.5%

# **Operation Summary Report**

Well: NBU 921-2		RED						Spud Date: 9/28/2012
Project: UTAH-L	JINTAH			Site: NBU	921-22M	I PAD		Rig Name No: H&P 318/318, PROPETRO 11/11
Event: DRILLING	3			Start Date	e: 9/19/20	12		End Date: 10/27/2012
Active Datum: R Level)	KB @4,9	30.00usft (abo	ove Mean S	ea 	UWI: SV	N/SW <b>/</b> 0/9	/S/21/E/22	/0/0/26/PM/S/711/W/0/671/0/0
Date	SI	Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U -	MD From Operation (usft)
9/29/2012	0:00	- 8:00	8.00	DRLSUR	02	B	P	DRL F/2240' - T/2869' ( 1140' @ 95' ) W.Ö.B. 18/20K  RPM ~ 45 POWERHEAD / 83 MUD MOTOR UP/DWN/ROT ~ 80/68/76 PSI ON/OFF ~ 1850/1670 491 GPM PUMP RATE / NO AIR M.W. 8.5# VIS 27 TORQUE ~ 31001/1300
	8:00	- 10:00	2.00	DRLSUR	05	С	P	NOV-ONLINE HOLE CONDITION ~ GOOD .25 NORTH ~ .65 WEST OF TARGET CIRCULATE PRIOR TO TRIP FOR CASING
	10:00	- 14:00	4.00	DRLSUR	06	Α	P	LDDS, BHA & DIRECTIONAL TOOLS
		- 15:00	1.00	CSGSUR	12	Α	Р	MOVE PIPE RACKS AND CATWALK; PULL DIVERTER HEAD; RIG UP TO RUN CASING;MOVE CASING INTO POSITION
		- 17:30	2.50	CSGSUR	12	С	P	TIH 64 JOINTS 8 5/8", 28#, J55 CASING SHOE IS AT 2834.8' BAFFLE IS AT 2790.6'
		- 18:00	0.50	CSGSUR	12	В	Р	HOLD SAFETY MEETING; RUN 200' OF 1" TUBING; RIG DOWN MOVE OFF WELL; RIG UP CEMENTERS AND CEMENT HEAD.
		- 19:00	1.00	CSGSUR	12	E	P	RIG UP PRO PETRO PUMP TRUCK; LOAD PLUG; TEST LINES TO 2000 PSI.; PUMP 160 BBLS WATER FOLLOWED BY 20 BBL GEL WATER FLUSH; LEAD = 280sx CLASS G CMT @ 12.0 WT & 2.86 YIELD; TAIL = 200sx OF 15.8 WT & 1.15 YIELD; DROP PLUG & DISPLACE W/ 175 BBLS WATER; PLUG DOWN @ 09:20 09/29/2012; BUMP PLUG @ 1050 PSI; FINAL LIFT = 750 PSI.; CHECK FLOAT DIDN'T HOLD, HELD PRESSURE ON CSG, DURING JOB. W/ 1 BBL BACK; FULL RETURNS THROUGH OUT JOB; 25 BBLS CMT TO SURFACE; PUMP 125 SX 15.8# CMT W/4% CALCIUM DOWN 1"; CEMENT TO SURFACE BUT FELL BACK 3'. RELEASED RIG @ 19:00
10/18 <i>[</i> 2012		- 19:00	1.00	RDMO	01	Е	Р	MOVED MAN CAMPS , 7 400 BBL UPRIGHT TANKS & 1200 BBLS 11.8 MUD RIG DOWN FOR TRUCKS,2 HOWCROFT TRUCKS 2 HANDS 2 STALLION HANDS 2 SERVICE TRUCKS RIG MOVE 5 MILES
		- 0:00	5.00	RDMO	21	Ċ	Р	WAIT ON DAY LITE
10/19/2012	0:00	- 6:00	6.00	RDMO	21	С	Р	WAIT ON DAY LITE
	6:00	- 19:00	13.00	RDMO	01	E	P	RIG FOR TRUCKS, MOVE RIG JONES HAD 8 TRUCKS, DRIVERS , SWAMPERS 4 2-FORKLIFTS ,2 CRAINS 4 OILERS H&P HAD 14 HANDS SAFETY HAND, TOOL PUSHER , ANADARKO SAFETY HAND 80 % RIGED DOWN 8-0 % MOVED & 20 % RIGED UP
		- 0:00	5.00	RDMO	21	С	Р	WAIT ON DAY LITE
10/20/2012	0:00	- 6:30	6.50	RDMO	21	С	P	WAIT ON DAY LITE

## **Operation Summary Report**

 Well: NBU 921-22M GR RED
 Spud Date: 9/28/2012

 Project: UTAH-UINTAH
 Site: NBU 921-22M PAD
 Rig Name No: H&P 318/318, PROPETRO 11/11

 Event: DRILLING
 Start Date: 9/19/2012
 End Date: 10/27/2012

Event: DRILLING	Start Date	e: 9/19/20	12			End Date: 10/27/2012					
Active Datum: RI	<b @4,9<="" th=""><th>30.00usft (ab</th><th>ove Mean S</th><th>ea</th><th>UWI: SI</th><th>N/SW/0/9</th><th>9/S/21/E/2</th><th>2/0/0/26/PM/S/71</th><th colspan="3">1/W/0/671/0/0</th></b>	30.00usft (ab	ove Mean S	ea	UWI: SI	N/SW/0/9	9/S/21/E/2	2/0/0/26/PM/S/71	1/W/0/671/0/0		
Level)	P00000										
Date	50 m (655)	Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation		
	6:30	- 19:00	12.50	RDMO	01	В	Þ		HELD SAFETY MEETING WITH TRUCK DRIVERS, RIG HANDS, CRAIN HANDS JONES HAD 8 TRUCKS 2 FORKLIFTS 2 SWAMPERS 2 CRAIN 4 OILERS H&P HAD 13 HANDS 1 TOOL PUSHER, 1 SAFETY HAND, 100 % MOVED 95 % RIGED UP RELEASED 1 CRAIN @ 18:00 ON 10/20/2012 RELEASED ALL TRUCK @ 19:00 10 20/ 2012		
	19:00	- 0:00	5.00	RDMO	21	С	P		WAIT ON DAY LIGHT		
10/21/2012	0:00	<del>-</del> 7:00	7.00	MIRU3	21	С	Р		WAIT ON DAY LIGHT		
	7:00	- 19:30	12.50	PRPSPD	01	В	P		RIG UP RAISE DERICK, INSTALL WIND WALL FRAMESCENRER RIG OVER HOLE FINSH RUNING WIRES FROM CABLE TO SUB FILL PIT INSTALL WASH PIPEMUD COVER		
	19:30	- 0:00	4.50	PRPSPD	14	Α	P		NIPPLE UP BOPS		
10/22/2012	0:00	- 3:30	3.50	PRPSPD	14	Α	Р		NIPPLE UP BOPS		
	3:30	- 7:30	4.00	PRPSPD	15	Α	Р		TESTING BOPS		
	7:30	- 9:30	2.00	PRPSPD	15	Α	Z		***WORKING ON SMITH HEAD, SWACO EQUIP. TROUBLE SHOT THEM LEAKING HY-DRILICK OIL		
	9:30	- 11:00	1.50	PRPSPD	15	A	P		TESTING HY-DRILL LOW 250 HIGH 2500 PSI 8 5/8 CASING 1500 PSI FOR 30 MINS		
		- 12:30	1.50	PRPSPD	15	Α .	P		TESTING SWACO, EQUIP. SMITH HEAD TO 1000 PSI		
		* 14:00 - 19:30	1.50	PRPSPD	06	Α	P		INSTALL WEAR BUSHING		
		- 19:30 - 20:00	5.50	DRLPRV	06	A	P		P/U BHA MWD TOOLS SCRIB IN HOLE TAGED TOP CMT @ 2740'		
		- 0:00	0.50	DRLPRV	02	F	P		DRILL SHOE TRACK		
10/23/2012	0:00	- 4:30	4.50	DRLPRV	02	В	P P		DRILL SLID 2893 TO 3587 694 FT ROP 173.5 WT ON BIT 20-22 K RPM 52 TD - 124 PUMPS ON/OFF 2000 / 1430 SPM 60 /60 GPM 540 TQ ON /OFF 8000 / 3000 NOV - DEWATERING SWACO - OFF LINE DRILL SLID 3587 TO 4358 1266 FT ROP 281.3 WT ON BIT 20-22 K RPM 52 TD - 124 PUMPS ON/OFF 2000 / 1430 SPM 60 /60 GPM 540 TQ ON /OFF 8000 / 3000 NOV - DEWATERING		
									SWACO - OFF LINE		
	4:30	- 5:00	0.50	DRLPRV	05	Α	Р		PUMP 80 BBLS 34 VIS MUD SPOTED ON BOTTOM		
	5:00	- 5:30	0.50	DRLPRV	06	Α	P		TRIP OUT HOLE 5 STD. WELL STARTED FLOWING		
	5:30	- 6:00	0.50	DRLPRV	06	Α	P		TRIP IN HOLE MUD UP		
	6:00	- 9:00	3.00	DRLPRV	05	В	P		RAISE MUD WT UP TO 9.3 VIS 33		
	9:00	- 10:30	1.50	DRLPRV	06	A	P		TRIP OUT HOLE FOR CORE # 1 WELL STARTED FLOWING AGAIN TH		
		- 12:00 - 15:30	1.50	DRLPRV	05	В	X		***RAISE MUD WT TO 9.8 VIS 34		
		- 15:30 - 19:30	3.50 4.00	DRLPRV DRLPRV	06 06	A B	P		TRIP OUT HOLE FOR CORING TOOLS  P/U CORE BARRLE # 1 OUTTER BARREL , INNER		
	19:30	- 20:00	0.50	DRLPRV	07	Α	Р		BARREL BIT RIG SER.		

# **Operation Summary Report**

 Well: NBU 921-22M GR RED
 Spud Date: 9/28/2012

 Project: UTAH-UINTAH
 Site: NBU 921-22M PAD
 Rig Name No: H&P 318/318, PROPETRO 11/11

 Event: DRILLING
 Start Date: 9/19/2012
 End Date: 10/27/2012

vent: DRILLING	<u> </u>			Start Date	: 9/19/20	)12			End Date: 10/27/2012		
Active Datum: R .evel)	KB @4,9	30.00usft (al	oove Mean S	ea	UWI: SV	N/SW/0/9	/S/21/E/2	22/0/0/26/PM/S/711	1 <i>NN</i> /0/671/0/0		
Date	CH-C0010 1944 C	Time art-End	Duration (hr)	Phase	Code.	Sub Code	P/U	MD From (usft)	Operation		
		- 21:00	1.00	DRLPRV	08	A	Z	La Carly	***WORKING ON ST80 TORQE ADJUSTMENT NOT		
									WORKING		
		- 23:30	2.50	DRLPRV	06	В	P		TRIP IN HOLE WITH CORE # 1		
	23:30	- 0:00	0.50	DRLPRV	05	Α	Р		CIRC BOTTOMS UP BEFORE CUTTING CORE		
10/24/2012	0:00	- 4:00	4.00	DRLPRV	Ö4	<b>A</b>	P		CORING F/ 4358' TO 4453' , 95' @ 23.7' HR WOB 10/11 RPM 50/52 SPM 71/ GPM 319 PUMP PSI 700		
	4:00	- 9:00	5.00	DRLPRV	06	В	Р		WUD WT 9.8, VIS 33 TRIP OUT OF HOLE & LAY DOWN CORE # 1		
	0.00						***		RECOVERED 91' OF CORE		
	9:00	- 12:00	3.00	DRLPRV	06	Α	Р		TRIP IN HOLE W/ BHA #1 TO 4298'		
		- 13:00	1.00	DRLPRV	10	D	Р		ROTATE SLOW F/ 4298' TO 4453, FOR GAMMA LOG		
		- 16:30	3.50	DRLPRV	02	В	Р		DRILL F/ 4453' TO 4825' 2ND CORE POINT ( 372' @ 106.2' HR  WOB 20/22  RPM 47/50  SPM 120 , GPM 540  TORQUE 7/2  UP/SO/ROT 126/110/117  NOV SHUT DOWN  MUD WT 9.9 , VIS 32		
		- 17:00	0.50	DRLPRV	05	С	₽		CIRC & CONDITION, MIX PILL		
	17:00	÷ 21:30	4.50	DRLPRV	06	Α	₽		TRIP OUT OF HOLE, LAY DOWN MWD		
	21:30	- 22:00	0.50	DRLPRV	07	Α	P		RIG SERVICE, CHANGE HOSE ON ST 80		
	22:00	÷ 0:00	2.00	DRLPRV	06	В	P		PICK UP #2 CORE BARRELS, TRIPPING IN HOLE @ 1124'		
10/25/2012	0:00	- 2:00	2.00	DRLPRV	06	В	Р		TRIP IN HOLE W/ #2 CORE ASSEMBALY		
	2:00	- 2:30	0.50	DRLPRV	05	F	P		CIRCULATE BOTTOMS UP BEFORE CUTTING CORE		
	2:30	- 7:30	5.00	DRLPRV	04	Α	Р		CORING'F/ 4825' TO 4918'		
	7:30	- 8:00	0.50	DRLPRV	05	Ċ	P		CIRC BOTTOMS UP		
	8:00	- 14:00	6.00	DRLPRV	06	В	Р		TRIP OUT OF HOLE , LAY DOWN #2 CORES, RECOVERED 92.6' , LAYDOWN CORING TOOLS		
	14:00	÷ 14:30	0.50	DRLPRV	07	Α	₽		RIG SERVICE		
	14:30	- 15:00	0.50	DRLPRV	06	Α	Р		P/U BIT & MOTOR		
	15:00	- 0:00	9.00	DRLPRV	08	Α	Z		*** RIĞ REPAIR*** TRACTION MOTOR TO DRAW WORKS FAILURE, WAIT ON CRANE, ELECTRICIANS, AND NEW TRACTION MOTOR OUT OF GRAND JUNCTION CO, CHANGE OUT TRACTION MOTORS		
10/26/2012	0:00	- 6:00	6.00	DRLPRV	80	Α	Z		*** RIG REPAIR*** REPLACE DRAW WORKS TRACTION MOTOR, REWIRE		
	6:00	- 7:30	1.50	DRLPRV	06	Α	P		TRIP IN HOLE W/ BHA #1 TO 1693'		
	7:30	- 9:30	2.00	DRLPRV	80	Α	Z		*** RIG REPAIR*** TROUBLE SHOOT DRAW WORKS ENCODER		
	9:30	- 11:00	1.50	DRLPRV	06	Α	P		TRIP IN HOLE , WASH F/ 4806' TO 4918'		
	11:00	- 11:30	0.50	DRLPRV	07	Α	P		RIG SERVICE		

# **Operation Summary Report**

Well: NBU 921-22M GR RED Spud Date: 9/28/2012 Project: UTAH-UINTAH Site: NBU 921-22M PAD Rig Name No: H&P 318/318, PROPETRO 11/11

ı	Active Datum: RKB @4,930.00usft (above Mean Sea	UWI: SW/SW
ı	1 avails	

Event: DRILLING	i			Start Date	e: 9/19/20	12	End Date: 10/27/2012					
Active Datum: Rk	(B @4,9	30.00usft (ab	ove Mean S	ea	UWI: SV	N/SW/0/9	/S/21/E/2	S/21/E/22/0/0/26/PM/S/711/W/0/671/0/0				
Level)	F 198, 1921, 18,042		Nicht masterne von	907 T   00 mm, April 70	Controverse St.	Feed of the sectors &						
Date	55 San San	Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From	Operation			
-		- 12:30	1.00	DRLPRV	02	B	Р	(usft)	DRILL F/ 4918' TO 5001' , TD @ 12:30 10/26/2012 , 83' @ 83' HR WOB 22/25 RPM 55 TORQ 7/2 SPM 110, GPM 495 PUMP ON /OFF 2150/1680 UP/SO/ROT 132/118/123			
	12:30	- 13:00	0.50	DRLPRV	05	С	Р		NOV SHUT DOWN CIRCULATE BOTTOMS UP			
		- 16:30 - 17:00	3.50 0.50	DRLPRV DRLPRV	06 05	E C	P P		WPER TRIP TO CASING SHOE, WASH THROUGH TIGHT SPOT F/ 4330' TO 4385', CONTINUE TIH, WASH 150' TO BOTTOM (PRECAUTIONARY) CIRCULATE BOTTOMS UP			
	17:00	- 20:30	3.50	DRLPRV	06	E	X		***2ND WPER TRIP*** WIPER TRIP OUT TO CASING SHOE, TIGHT @ 4325', TRIP IN WASH THROUGH TIGHT SPOT F/4295' TO 4325" SEVERAL TIMES, CONTINUE TRIP IN HOLE TO BOTTOM			
		- 21:30	1.00	DRLPRV	05	С	Х		*** 2ND WIPER TRIP*** CIRCULATE & CONDITION, RAISE MUD WT TO 10.4, 36 VIS			
10/27/2012	0:00	- 0:00 - 1:30	2.50 1.50	DRLPRV	06	A	P		TRIPPING OUT OF HOLE F/ LOGS @ 920'			
1012112012	1:30 7:30	- 7:30	6.00	DRLPRV EVALPR	06 11	A C	P P		TRIP OUT OF HOLE LAY DOWN MWD, MOTOR ,BIT SAFETY MEETING W/ BAKER ATLAS, RIG UP & RUN TRIPLE COMBO LOGS TO 4999', RIG DOWN LOGGERS			
	8:00	- 8:00 - 12:00	0.50 4.00	CSGPRO CSGPRO	12 12	A C	P P		SAFETY MEETING W/ KIMZEY CASING & RIG UP			
·									RUN 115 JTS (1 JT LT&C / 113 JTS DQX) TO 4988', TOP OF FLOAT 4964', TOP OF X/O 4943,, TOP OF MARKER 1543'			
		- 13:00	1.00	CSGPRO	05	D	Р		CIRCULATE OUT GAS F/ CEMENT, RIG DOWN CASERS, SAFETY MEETING W/ BJ SERVICES			
	16:00	- 16:00 - 16:30	0.50	CSGPRO	12	E	P		CEMENT PROD CASING, PRESSURE TEST TO 4200 PSI, DROP BOTTOM PLUG, PUMP 25 BBLS SPACER , 360 SX, PREMIUM LITE II CEMENT + .05 LBS/SX STATIC FREE+ 0.6% BWOC FL-52 + 0.4% BWOC SODIUM METASILICATE + 6% BWOC BENTONITE II + 0.2% BWOC R-3 +0.25 LBS/SACK CELLO FLAKE +5 LBS/SX KOL-SEAL,50 LB BAG 119.7 FRESH WATER ,12.#, 2.26 YLD, LEAD , 356 SACKS ( 50:50) POZ (FLY ASH): CLASS G CEMENT + 0.005 LBS/SACK STATIC FREE + 10% BWOW SODIUM CHLORIDE + 0.3% BWOC R-3 + 0.002 GPS FP-6L + 2% BWOC BENTONITE II + 58.9% FRESH WATER 14.3#, 1.32 YLD TAIL, SHUT DOWN WASH UP DROP TOP PLUG, DISPLACE W/ 77.2 BBLS CLAY CARE + 1 GAL MAGNACIDE @ 8.34 PPG, FINAL LIFT 1215 PSI , BUMP PLUG @ 2061 PSI HELD F/5 MIN , FLOATS HELD ,FULL RETURNS THROUGH OUT JOB, 3 BBLS CEMENT BACK TO SURFACE ,TOP OF TAIL EST 3350', FLUSH STACK AND LINES , RIG DOWN CEMENTERS SET PACK OFF ASSEMBALY			
1	16:30	- 18:00	1.50	CSGPRO	14	Α	Р		NIPPLE DOWN BOP, PREP RI F/ SKID, RELEASE RIG @ 18:00 10/27/2012			

## 1 General

### 1.1 Customer information

Company	US ROCKIES REGION
Representative	
Address	

### 1.2 Well/Wellbore Information

Well	NBU 921-22M GR RED	Wellbore No.	ОН
Well Name	NBU 921-22M GR	Wellbore Name	NBU 921-22M GR
Report No.	1	Report Date	12/20/2012
Project	UTAH-UINTAH	Site	NBU 921-22M PAD
Rig Name/No.		Event	COMPLETION
Start Date	12/20/2012	End Date	1/8/2013
Spud Date	9/28/2012	Active Datum	RKB @4,930.00usft (above Mean Sea Level)
UWI	SW/SW/0/9/S/21/E/22/0/0/26/PM/S/711/W/0/671/0/0		

### 1.3 General

Contractor	Job Method	Supervisor	
Perforated Assembly	Conveyed Method		

## 1.4 Initial Conditions

# 1.5 Summary

Fluid Type		Fluid Density	Gross Interval	4,132.0 (usft)-4,929.0 (usft	Start Date/Time	12/27/2012 12:00AM
Surface Press		Estimate Res Press	No. of Intervals	16	End Date/Time	12/27/2012 12:00AM
TVD Fluid Top		Fluid Head	Total Shots	93	Net Perforation Interval	29.00 (usft)
Hydrostatic Press		Press Difference	Avg Shot Density	3.21 (shot/ft)	Final Surface Pressure	
Balance Cond	NEUTRAL				Final Press Date	

## 2 Intervals

### 2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD_Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diametel r (in)	Carr Type /Stage No	Carri Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason Misrur
12/27/201 2 12:00AM	DOUGLAS CREEK/		- NAMAPURA	4,132.0	4,134.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N

## 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
12/27/201 2 12:00AM	DOUGLAS CREEK/	Commence makes in 1986. Should fill fill for		4,156.0	4,158.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
12/27/201 2 12:00AM	DOUGLAS CREEK/			4,196.0	4,198.0	3.00		0.360	EXP/	3.375	120.00	Wagners of the Control of the Contro	23.00	PRODUCTIO N	(III) Prince diament channel
12/27/201 2 12:00AM	DOUGLAS CREEK/	The residence		4,214.0	4,216.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	The state of the s
	CARB MARKER/		-	4,362.0	4,365.0	4.00		0.360	EXP/	3,375	90.00		23.00	PRODUCTIO N	
	CARB MARKER/			4,385.0	4,388.0	4.00		0.360	EXP/	3.375	90.00	The state of the s	23.00	PRODUCTIO N	TO THE PROPERTY OF THE PARTY OF
12/27/201 2	LONG POINT/			4,551.0	4,553.0	3.00	May 1:	0.360	EXP/	3.375	120.00	renthaumann i magadaidh dheath a sheachta a sheachta a dheatha a sheachta a sheachta a sheachta a sheachta a s	23.00	PRODUCTIO N	
12:00AM 12/27/201 2 12:00AM	LONG POINT/		The desired of the control of the co	4,600.0	4,602.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
**************************************	LONG POINT/	***************************************		4,653.0	4,655.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
	LONG POINT/		Annual Control of Cont	4,762.0	4,764.0	3.00	· · · · · · · · · · · · · · · · · · ·	0.360	EXP/	3.375	120.00			PRODUCTIO N	
	UTELAND BUTTE/			4,816.0	4,817.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	Name - (100 - (1
<b>,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,</b>	UTELAND BUTTE/	A STATE OF THE STA		4,833.0	4,834.0	3.00		0.360	EXP/	3.375	120.00			PRODUCTIO N	
	UTELAND BUTTE/			4,862.0	4,863.0	3.00	CONTRACTOR	0.360	EXP/	3.375	120.00			PRODUCTIO N	
12/27/201 2	UTELAND BUTTE/	1900 1900 1900 1900 1900 1900 1900 1900		4,868.0	4,869.0	3.00		0.360	EXP/	3.375	120.00		1	PRODUCTIO N	
12:00AM 12/27/201 2 12:00AM	UTELAND BUTTE/			4,921.0	4,922.0	3.00		0.360	EXP/	3.375	120.00		1	PRODUCTIO N	

### 2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Stage No	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
12/27/201 2 12:00AM	UTELAND BUTTE/			4,927.0	4,929.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

# 3 Plots

## 3.1 Wellbore Schematic



			(e)		Opera	ition S	Summa	ry Report
Well: NBU 921-2	22M GR F	RED	je godine koministi koministi po	AB. J. S. P. C. C. C.	Parkers A Salata	<u> 29 - 18 (14 24 24 25 14 15 15 15 15 15 15 15 15 15 15 15 15 15 </u>	Milan Relliancia de A	Spud Date: 9/28/2012
Project: UTAH-U	HATMIL			Site: NBI	J 921-22N	/I PAD		Rig Name No:
Event: COMPLE	TION			Start Dat	e: 12/20/2	2012		End Date: 1/8/2013
Active Datum: R Level)	KB @4,9	30.00usft (a	bove Mean Se	ea	UWI: S	W/SW/0/9	9/S/21/E/22	2/0/0/26/PM/S/711/W/0/671/0/0
Date		Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)
9/28/2012 12/20/2012 12/31/2012	11:00 6:45	- - 12:30 - 7:00	1.50 0.25	FRAC	33 48	С	P	FILL SURFACE CSG. MIRU CAMERON QUICK TEST. 1ST PSI TEST T/ 7000 PSI. HELD FOR 15 MIN LOST 11 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. MOVE T/ NEXT WELL.SWIFN HSM, HIGH PSI LINES & WL SAFETY.
	7:00	- 12:00	5.00	FRAC	46	E	Z	-3* deg. COULD NOT GET CROSSLINK CHEM (BC140X2) TO PUMP. LOOKS LIKE JELLY.

# Operation Summary Report

Well: NBU 921-22M GR F	RED						Spud Date: 9/2	28/2012			
Project: UTAH-UINTAH		**	Site: NBU	921-22N	/I PAD			Rig Name No:	_		
Event: COMPLETION			Start Date	12/20/2	0012			End Date: 1/8/2013	_		
Active Datum: RKB @4,9	30 00usft (ab	ove Mean Sea		Γ		/S/21/E/	22/0/0/26/PM/S/7		_		
Level)	ou.oudon (da	ove mean ee	•			<b>4.2</b> (,E)	22/0/0/2011 141/0/1	11/14/0/07 170/0			
Sta	Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation			
12:00	- 18:00	6.00	FRAC	36				PSI TEST FRAC LINES T/ 8500 PSI. LOST 500 PSI. FRAC STG 1)WHP 65 PSI, BRK 3013 PSI@4.7 BPM. ISIP 1891 PSI, FG. 0.82 CALC PERFS OPEN @ 33 BPM @ 2180 PSI = 100% ISIP 1883 PSI, FG. 0.82, NPI -8 PSI. MP 3037 PSI, MR 40.3 BPM, AP 2796 PSI, AR 40 BPM, PUMPED 100 MESH AND 20/40 SAND IN THIS STG. SWI, XO T/ WL.  PERF STG 2)PU 4 1/2 8K HAL FLOW THROUGH CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 120 DEG PHASING. RIH SET FTCBP @ 4800°, P/U PERF AS PER DESIGN. POOH, XO T/ FRAC.  FRAC STG 2)WHP 1580 PSI, BRK 2417 PSI@4.7 BPM. ISIP 1454 PSI, FG. 0.74 CALC PERFS OPEN @ 40 BPM @ 1957 PSI = 100% ISIP 1634 PSI, FG. 0.78, NPI 180 PSI. MP 2520 PSI, MR 40 BPM, AP 2287 PSI, AR 39.7 BPM, PUMPED 20/40 SAND. SWI, XO T/ WL.  PERF STG 3)PU 4 1/2 8K HAL FLOW THROUGH CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET FTCBP @ 4430°, P/U PERF AS PER DESIGN. POOH, XO T/ FRAC.  FRAC STG 3)ACID FLUSH STG. WHP 1300 PSI, ATTM T/ BRK DWN 6 TIMES. WOULD NOT BRK. W/ WL, PU DUMP BAILER W/ 6 GAL 28% ACID. ATTM T/ RIH. WL FROZE IN LUBE. (MADE 3 ATTM.) LD DUMP BAILER W/ 6 GAL 28% ACID. ATTM T/ RIH. WL FROZE IN LUBE. (MADE 3 ATTM.) LD DUMP BAILER W/ ACID. LD LUBE. UNFREEZE. OPEN WELL FOR HALL T/ BRK DWN WHILE CASEDHOLE SOLUTIONS UNFREEZE LUBE. (DIDN'T HAVE DUMP BAIL ACID.) BRK @ 5247 PSI @ 4.7 BPM, ISIP 1762 PSI, FG .84. FINAL ISIP 1340 PSI, FG .74.	MMである。 1977年 - 1977年		
								VIEW POST JOB REPORT FOR DETAILS. SWI, XO T/ WL.			
								PERF STG 4)PU 4 1/2 8K HAL FLTH CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. COULD NOT GET OUT OF LUBE, PACK OFF WOULD NOT RELEASE. BLEED OFF BACK OFF, RIH SET FLTH CBP @ 4250', P/U PERF AS PER DESIGN. POOH XO T/ FRAC. RD CASEDHOLE SOLUTIONS.			
								FRAC STG 4)WHP 963 PSI, BRK 2152 PSI@4.7 BPM.			

FINISH FRACING THIS WELL W/ HALLIBURTON

HALLIBURTON FRAC SERV.

ISIP 1012 PSI, FG. 0.68 CALC PERFS OPEN @ 40 BPM @ 1865 PSI = 100% ISIP 1309 PSI, FG. 0.75, NPI 297 PSI. MP 2127 PSI, MR 46 BPM, AP 1998 PSI, AR 43.1 BPM, PUMPED 20/40 SAND. (PUMP 63,900 LBS OF SAND W/ CROSSLICK FLUID, COULD NOT GET VERY GOOD CROSS, SWITCH OVER T/ SLICK WATER FOR REMAINING 36,240 LBS.)) RDMO

Well: NBU 921-2	22M GR F	RED						Spud Date: 9/28/2012
Project: UTAH-U	JINTAH			Site: NBU	921-221	/ PAD		Rig Name No:
vent: COMPLE	TION			Start Date	e: 12/20/2	2012		End Date: 1/8/2013
ctive Datum: Revel)	RKB @4,9	30,00usft (ab	ove Mean Se	ea	UWI: SI	N/SW/0/9	9/S/21/E/2	0/0/26/PM/S/711/W/0/671/0/0
Date		Time art-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From Operation (usft)
				-				FRAC SERV.
								TOTAL SAND = 308,976 LBS
								TOTAL CLFL = 6695 BBLS
								RU FLOW LINE T/ APC FBT. OPEN WELL T/ FBT. LET FLOW OVER NIGHT ON OPEN CHOCK.
1/7/2013	7:00	- 9:30	2.50	COMP	30	Α	Р	ROAD RIG & RIG UP
	9:30	- 13:00	3.50	COMP	47	С	Р	FRAC VALVE FROZE UP, THAWED FRAC VALVE, BIG RED HEATED 400 BBL TNK
	13:00	- 15:00	2.00	COMP	30	E	P	PUMP 40 BBLS DWN CSG TO CONTROL WELL, FCP.  © 500 PSI,WELL STILL FLOWING, PUMP ANOTHER 20 BBLS HOT WTR DWN CSG WELL STILL FLOWING, SI & WAITED FOR WIRELINE.
1/8/2013	15:00 7:00	- 21:00	6.00	COMP	46	Е	Р	W/O CASED HOLE SOLUTIONS, PUMP 30 BBLS HOT WTR DWN CSG, RU CASED HOLE SOLUTIONS, LUB FROZE UP, LD LUB, PUT HEATER & COVERED W/ TARPS, FOUND LUB PACK W/ PARIFFIN, CUT LINE & TOOK LUB IN CLEAN, RD CASED HOLE SOLUTIONS, COVER FRAC VALVE & INSTALL HEATER, SWI, SDFN.
1/0/2013		- 7:30	0.50	COMP	48		Р	HSM, REVIEW RIH & SET CBP.
	7;30	- 9:30	2.00	COMP	34	I	Р	SICP. 450 PSI. PUMP 30 BBLS HOT WTR DWN CSG, RU CASED HOLE SOLUTIONS, EQUALIZE LUB W/ 600 PSI, OPEN WELL & RIH & SET 4-1/2 8K HALLIBURTON CBP & SET @ 4080', POOH TOOLS, RD CASED HOLE SOLUTIONS,
	9:30	<del>-</del> 10:00	0.50	COMP	30	Ė	Р	ND FRAC VALVE, NU BOP'S, RU FLŌŌR & TBG EQUIPMENT, P.T. BOP'S TO 3000 PSI, HĒLD.
		- 12:30	2.50	COMP	31	I	Р	PU 3-7/8 BIT, 1.875 XN POBS, TALLY & RIH W/ 129 JTS. 2-3/8 L-80 TBG F/ TRAILER, TAG CBP @ 4080'
	10.20	- 13:00	0.50	COMP	17		_	NILL DIAM CHARLE ECT CIDO IAU DIO DURAD

Р

NU PWR SWVL, EST CIRC W/ RIG PUMP.

12:30 - 13:00

COMP

47

Α

0.50

				, U	S ROCK	(IES RI	EGION	
aga e e e e e e e e e e e e e e e e e e	Agen Agen Comp.	e e e e e e e e e e e e e e e e e e e		Opera	ition S	umma	ry Report	
Well: NBU 921-2	2M GR RED					<u> </u>	Spud Date: 9/28	/2012
E LOOURI ETOU			Site: NBU	921-221	/I PAD			Rig Name No:
			Start Date	e: 12/20/2	2012			End Date: 1/8/2013
Active Datum: RKB @4,930.00usft (above Mean Sea Level)					N/SW/0/9/	'S/21/E/2	2/0/0/26/PM/S/711	/W/0/671/0/0
Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	13:00 - 18:00	5.00	COMP	44	C	P	(USTI)	PLUG # 1- D/O CBP @ 4080' IN 15 MINS W/ 200 PSI. INCREASE, RIH TBG. PLUG # 2- D/O CBP @ 4250' IN 22 MINS W/ 0 PSI INCREASE, RIH TBG. PLUG # 3 -D/O CBP @ 4430' IN 20 MINS W/ 0 PSI. INCREASE, RIH TBG. PLUG # 4- D/O CBP @ 4800' IN 19 MINS W/ 0 PSI. INCREASE, RIH TBG, FILL @ 4935 (30') 'C/O SAND TO PBTD @ 4965', CIRC WELL CLEAN, ND PWR SWVL, POOH & LD 6 JTS. ON TRAILER, LAND TBG HANGER W/ 150 JTS. 2-3/8 L-80 TBG, RD FLOOR & TBG EQUIPMENT, ND BOP'S, NU WH, DROP BALL WAIT 30 MINS, PUMP BIT-OFF W/ 1100 PSI. TURN WELL OVER TO FBC, WILL RDMO IN THE MORNING TO BONANZA 1023-18E2 PAD.  TBG DETAIL:  KB———————————————————————————————————
								USED 150 JTS. 2-3/8 L-80 NEW TBG RETURN 24 JTS. 2-3/8 L-80 NEW TBG
1/9/2013 1/12/2013	- 7:00 -			50				WELL IP'D ON 1/12/13, 0 MCFD, 315 BOPD, 16 BWPD, CP 900#, FTP 50#, CK 64/64, LP 0, 24 HRS

2/12/2013

7:39:43AM



+N/-S

Site: NBU 921-22M PAD

Well: NBU 921-22M GR

Wellbore: OH Design: OH

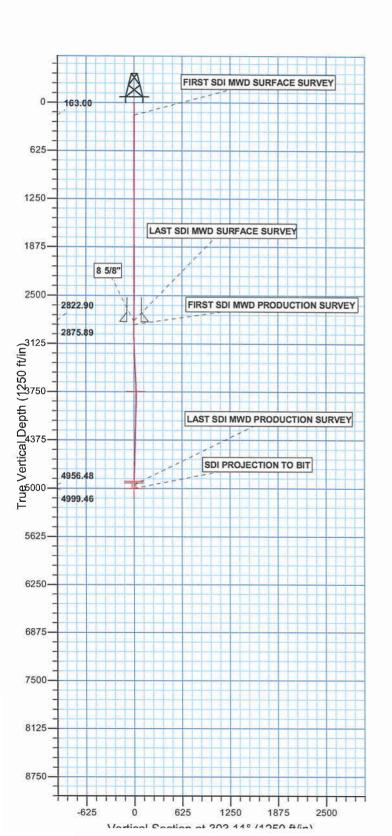
WELL DETAILS: NBU 921-22M GR GL 4906 & KB 24 @ 4930.00ft (HP 318) Northing 14535316.96 Easting 2048018.80 Latittude 40.016320 Longitude -109.544262

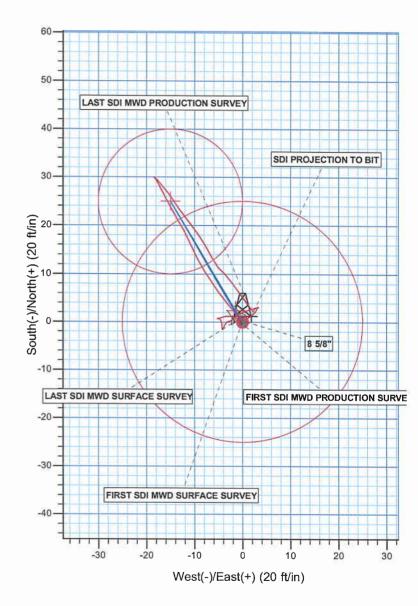




Azimuths to True North Magnetic North: 11.04°

> Magnetic Field Strength: 52290.5snT Dip Angle: 65.86° Date: 11/15/2011 Model: IGRF2010





PROJECT DETAILS: UTAH - UTM (feet), NAD27, Zone 12N

odetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: Zone 12N (114 W to 108 W)
Location: SECTION 22 T9S R21E

System Datum: Mean Sea Level

Design: OH (NBU 921-22M GR/OH)



# **US ROCKIES REGION PLANNING**

UTAH - UTM (feet), NAD27, Zone 12N NBU 921-22M PAD NBU 921-22M GR

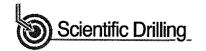
OH

Design: OH

# **Standard Survey Report**

01 November, 2012





# SDI Survey Report



Company:

US ROCKIES REGION PLANNING

Project:

UTAH - UTM (feet), NAD27, Zone 12N

Site: Well:

Desian:

NBU 921-22M PAD

Wellbore:

NBU 921-22M GR

OH ОН Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Database:

Well NBU 921-22M GR

GL 4906 & KB 24 @ 4930.00ft (HP 318)

GL 4906 & KB 24 @ 4930.00ft (HP 318)

True.

Minimum Curvature

EDM 5000.1 Single User Db

Project

UTAH - UTM (feet), NAD27, Zone 12N

Map System:

Universal Transverse Mercator (US Survey Feet)

Geo Datum: Map Zone:

NAD 1927 (NADCON CONUS)

Zone 12N (114 W to 108 W)

System Datum:

Mean Sea Level

Site

NBU 921-22M PAD, SECTION 22 T9S R21E

Site Position: From:

Northing: Easting:

14,535,316.97 usft

Latitude:

40.016320

Well

Lat/Long

2,048,018.80 usft

Longitude:

-109.544262

**Position Uncertainty:** 

0.00 ft

Slot Radius:

13.200 in

**Grid Convergence:** 

0.94°

NBU 921-22M GR, 711 FSL 671 FWL

**Well Position** 

+N/-S

0.00 ft

Northing: Easting:

14,535,316.97 usft 2,048,018.80 usft

Latitude: Longitude: 40.016320

**Position Uncertainty** 

0.00 ft 0.00 ft

Wellhead Elevation:

11/15/11

ft

Ground Level:

-109.544262 4,906.00 ft

Wellbore

OH

+E/-W

Magnetics

**Model Name** 

Sample Date

Declination (°)

Dip Angle

Field Strength

(nT)

OH

Audit Notes:

Design

Version:

1.0

Phase:

ACTUAL

Tie On Depth:

11.04

0.00

52,290

**Vertical Section:** 

Depth From (TVD)

+N/-S (ft)

+E/-W

Direction

20.00

2,876.00

(ft)

0.00

0.00

(ft) 0.00 (°) 303.11

**Survey Program** 

11/01/12 Date

**IGRF2010** 

From (ft)

To (ft)

Survey (Wellbore)

Tool Name

Description

SDI MWD - Standard ver 1.0.1

2,823.00 Survey #1 SDI MWD SURVEY (OH) 5,001.00 Survey #2 SDI MWD PRODUCTION (OH) SDI MWD SDI MWD

SDI MWD - Standard ver 1.0.1

65.86

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
20.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00
163.00	0.09	308.35	163.00	0.07	-0.09	0.11	0.06	0.06	0.00
FIRST SDI N	IWD SURFACE S	SURVEY							
191.00	0.26	20.60	191.00	0.14	-0.08	0.15	0.89	0.61	258.04
272.00	0.09	68.68	272.00	0.34	0.04	0.15	0.26	-0.21	59.36
361.00	0.35	53.03	361.00	0.53	0.32	0.02	0.30	0.29	-17.58
451.00	0.44	82.30	451.00	0.74	0.89	-0.34	0.24	0.10	32.52
541.00	0.44	46.09	540.99	1.02	1.48	-0.68	0.30	0.00	-40.23
631.00	0.53	53.12	630.99	1.51	2.06	-0.90	0.12	0.10	7.81



# SDI Survey Report



Company:

US ROCKIES REGION PLANNING

Project:

UTAH - UTM (feet), NAD27, Zone 12N

Site: Well: NBU 921-22M PAD NBU 921-22M GR

Wellbore:

Design:

OH OH

Local Co-ordinate Reference: TVD Reference: MD Reference:

North Reference:

**Survey Calculation Method:** 

Database:

Well NBU 921-22M GR

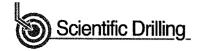
GL 4906 & KB 24 @ 4930.00ft (HP 318)

GL 4906 & KB 24 @ 4930.00ft (HP 318)

Minimum Curvature

EDM 5000.1 Single User Db

Measured			Vertical			Vertical	Dogleg	Build	Turn
Depth (ft)	Inclination (°)	Azimuth (°)	Depth (ft)	+N/-S (ft)	+E/-W (ft)	Section (ft)	Rate (°/100ft)	Rate (°/100ft)	Rate (°/100ft)
721.00	0.53	37.04	720.99	2.10	2.64	-1.07	0.16	0.00	-17.87
						1.07	0.10	0.00	-17.07
811.00 901.00	0.50 0.09	28.96 80.72	810.98	2.77	3.08	-1.07	0.09	-0.03	-8.98
991.00	0.09	253.33	900.98	3.13	3.34	-1.09	0.50	-0.46	57.51
1,081.00	0.62		990.98	3.00	2.95	-0.83	0.79	0.59	191.79
1,171.00	0.79	251.14	1,080.97	2.66	1.89	-0.13	0.19	0.19	-2.43
1,171.00	0.74	254.71	1,170.97	2.30	0.75	0.63	0.08	-0.06	3.97
1,261.00	0.62	237.34	1,260.96	1.89	-0.23	1.22	0.26	-0.13	-19.30
1,351.00	0.53	234.17	1,350.96	1.38	-0.97	1.57	0.11	-0.10	-3.52
1,441.00	0.48	232.79	1,440.95	0.91	-1.61	1.85	0.06	-0.06	-1.53
1,531.00	0.42	228.29	1,530.95	0.46	-2.16	2.06	0.08	-0.07	-5.00
1,621.00	0.35	258.43	1,620.95	0.19	-2.67	2.34	0.23	-0.08	33.49
1,711.00	0.35	244.46	1,710.95	0.01	-3.19	2.68	0.09	0.00	-15.52
1,801.00	0.44	206.49	1,800.94	-0.41	-3.59	2.78	0.30	0.10	-42.19
1,891.00	0.53	204.03	1,890.94	-1.10	-3.92	2.68	0.10	0.10	-2.73
1,981.00	0.18	230.75	1,980.94	-1.57	<b>-4</b> .19	2.65	0.42	-0.39	29.69
2,071.00	0.62	1.35	2,070.94	-1.17	-4.29	2.95	0.83	0.49	145.11
2,161.00	0.62	352.21	2,160.93	-0.21	-4.35	3.53	0.11	0.00	-10.16
2,251.00	0.35	324.35	2,250.93	0.50	-4.57	4.10	0.39	-0.30	-30.96
2,341.00	0.35	279.53	2,340.93	0.77	<b>-</b> 5.00	4.61	0.30	0.00	-49.80
2,431.00	0.09	184.60	2,430.93	0.74	-5.28	4.83	0.41	-0.29	-105.48
2,521.00	0.70	69.47	2,520.92	0.87	<b>-4</b> .77	4.47	0.83	0.68	-127.92
2,611.00	0.88	82.30	2,610.92	1.15	-3.57	3.62	0.28	0.20	14.26
2,701.00	0.88	97.59	2,700.90	1.15	-2.20	2.47	0.26	0.00	16.99
2,791.00	0.62	123.61	2,790.90	0.79	-1.11	1.36	0.47	-0.29	28.91
2,823.00	0.53	144.77	2,822.90	0.58	-0.88	1.05	0.72	-0.28	66.13
LAST SDI M	WD SURFACE S	URVEY							
2,876.00	0.73	148.67	2,875.89	0.09	-0.57	0.52	0.39	0.38	7.36
FIRST SDI N	WD PRODUCTION	ON SURVEY							
2,970.00	0.26	358.00	2,969.89	-0.21	-0.26	0.10	1.03	-0.50	-160.29
3,064.00	1.19	330.04	3,063.88	0.85	-0.76	1.10	1.03	0.99	-29.74
3,159.00	2.15	317.15	3,158.84	3.01	-2.46	3.71	1.08	1.01	-13.57
3,253.00	2.99	326.15	3,252.75	6.34	-5.03	7.67	0.99	0.89	9.57
3,348.00	3.12	325.58	3,347.61	10.53	<b>-</b> 7.87	12.34	0.14	0.14	-0.60
3,442.00	4.14	336.15	3,441.42	15.74	-10.69	17.55	1.29	1.09	11.24
3,537.00	3.07	327.19	3,536.23	21.02	-13.45	22.75	1.27	-1.13	-9.43
3,631.00	2.85	335.06	3,630.11	25.25	-15.80	27.03	0.49	-0.23	8.37
3,725.00	1.89	328.52	3,724.03	28.69	-17.59	30.41	1.06	-1.02	-6.96
3,820.00	0.07	183.31	3,819.01	29.97	-18.42	31.80	2.05	-1.92	-152.85
3,914.00	1.54	131.85	3,913.00	29.07	-17.48	30.52	1.59	1.56	-54.74
4,008.00	2.55	146.10	4,006.94	26.49	-15.37	27.35	1.19	1.07	15.16
4,103.00	2.20	144.68	4,101.86	23.25	-13.14	23.71	0.37	-0.37	-1.49
4,197.00	2.22	140.31	4,195.79	20.38	-10.93	20.29	0.18	0.02	-4.65
4,291.00	1.37	147.74	4,289.74	18.03	-9.17	17.53	0.94	-0.90	7.90



# SDI Survey Report



Company:

US ROCKIES REGION PLANNING

Project:

UTAH - UTM (feet), NAD27, Zone 12N

Site:

NBU 921-22M PAD

Well: NBI Wellbore: OH

NBU 921-22M GR

Wellbore: Design:

ОН

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference: Survey Calculation Method:

Database:

Well NBU 921-22M GR

GL 4906 & KB 24 @ 4930.00ft (HP 318)

GL 4906 & KB 24 @ 4930.00ft (HP 318)

True

Minimum Curvature

EDM 5000.1 Single User Db

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,385.00	1.62	146.91	4,383.71	15.96	-7.84	15.29	0.27	0.27	-0.88
4,480.00	1.78	153.86	4,478.67	13.51	-6.46	12.79	0.27	0.17	7.32
4,574.00	1.25	135.83	4,572.63	11.47	-5.10	10.54	0.75	-0.56	-19.18
4,668.00	1.30	134.42	4,666.61	9.98	-3.63	8.49	0.06	0.05	-1.50
4,763.00	1.58	145.74	4,761.58	8.15	-2.12	6.23	0.42	0.29	11.92
4,857.00	1.95	145.24	4,855.54	5.76	-0.48	3.55	0.39	0.39	-0.53
4,951.00	1.78	142.89	4,949.49	3.28	1.31	0.69	0.20	-0.18	-2.50
4,958.00	1.67	140.03	4,956.48	3.12	1.44	0.49	2.00	<b>-</b> 1.57	-40.86
LAST SDI M	WD PRODUCTIO	N SURVEY							
5,001.00	1.67	140.03	4,999.46	2.16	2.25	-0.70	0.00	0.00	0.00

Depth D	ertical Depth (ft)	Casing Hole Diameter Diameter Name (in) (in)
2,838.11	2,838.00 8 5/8"	8.625 11.000

Design Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coor +N/-S (ft)	dinates +E/-W (ft)	Comment
163.00	163.00	0.07	-0.09	FIRST SDI MWD SURFACE SURVEY
2,823.00	2,822.90	0.58	-0.88	LAST SDI MWD SURFACE SURVEY
2,876.00	2,875.89	0.09	-0.57	FIRST SDI MWD PRODUCTION SURVEY
4,958.00	4,956.48	3.12	1.44	LAST SDI MWD PRODUCTION SURVEY
5,001.00	4,999.46	2.16	2.25	SDI PROJECTION TO BIT

Checked By:	Approved By:	Date:

# STATE OF UTAH

DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

# RECEIVED

FORM 6

APR 2 9 2013

# **ENTITY ACTION FORM**

Div. of Oil, Gas & Mining

Operator:

KERR McGEE OIL & GAS ONSHORE LP

Operator Account Number: N 2995

Address:

P.O. Box 173779

city DENVER

state CO

zip 80217

Phone Number:

(720) 929-6501

#### Well 1

API Number	Well	Name	QQ	Sec	Twp	Rng	County
4304752584	NBU 921-22M GR		swsw	22	98	21E	UINTAH
Action Code	Current Entity Number	New Entity Number	S	pud Da	te		tity Assignment Effective Date
	99999	19013				11-	April-2013

Comments:

The operator formally requests to change the subject well from the Natural Buttes Unit (2900) to the

Maverick Unit (18433).

Sec 22 SWSW

### Well 2

API Number	Well I	Well Name			Twp	Rng County		
Action Code	Current Entity Number	New Entity Number	Spud Date		te	Entity Assignment Effective Date		
Comments:								

#### Well 3

API Number	Well I	QQ	Sec	Twp	Rng	County	
Action Code	Current Entity Number	New Entity Number	S			y Assignment fective Date	
omments:					_		

#### **ACTION CODES:**

A - Establish new entity for new well (single well only)

**B** - Add new well to existing entity (group or unit well)

C - Re-assign well from one existing entity to another existing entity

D - Re-assign well from one existing entity to a new entity

E - Other (Explain in 'comments' section)

Luke Urban

Name (Please Print)

Signature

Title

Sr. Regulatory Specialist

4/29/2013

Tull labor

Date